OCTOBER, 1955

Industrial FINISHING

Published Monthly in the Interest of Product Cleaning and Painting by Practical Publications, Inc., 1142 N. Meridian Street, Indianapolis 4, Ind.

A Safe Sign to Follow

AT RELIANCE, a thorough analysis of all factors involved in any finishing problem is a prerequisite to the formulation of the proper materials to be used. Reliance manufactures "tailor-made" Stains, Fillers, Lacquers, Varnishes, Primers, Undercoats, Enamels and Special Coatings for every known surface, to be applied by spraying, dipping, flowing, roller coating — air dried or baked. May we have the pleasure of serving you?

RELIANCE VARNISH COMPANY

Incorporated

Affiliated Factories in

LOUISVILLE, KY.

ASHEVILLE, N. C. BRIDGEPORT, CONN. CHICAGO, ILL. LOS ANGELES, CALIF.

THE LIGHT THAT MUST NOT FAIL

For a *really tough* finishing assignment, consider the airfield landing light. Exposed to snow, rain, heat, cold and saline atmospheres—abraded by high-velocity air-borne grit, these guardians of your safety must perform a twenty-four hour vigil, day after day—year after year.

That is why leading manufacturers use

ZINC CHROMATE PALADIN

for this newest member of the famous family of PALADIN PRIMERS provides the typical PALADIN adhesion to difficult metals such as:

Aluminum	**Magnesium**
Brass	**Nickel**
Bronze	**Polished chromium**
Cadmium	**Stainless steel**
Copper	**Zinc**

and, in addition, gives protection against electrolytic corrosion by neutralizing eddy currents and preventing the formation of alkaline corrosion media.

If you use a variety of metals and want a SINGLE primer that will adhere to all of them (melamine and phenolic plastics, too), call your nearest Interchemical Finishes Specialist to learn more about ZINC CHROMATE PALADIN.

Send for your copies of *"The Facts on Paladin" and "Corrosion—What Causes it—What to do about it?"*

Interchemical
Corporation
Finishes Division

FACTORIES: CHICAGO, ILL. • CINCINNATI, OHIO
ELIZABETH, N. J. • LOS ANGELES, CAL.
NEWARK, N. J. • MEXICO CITY, MEX.

In Canada, IC products are sold by AULCRAFT PAINTS LTD., Toronto, Ont., under its trademarks.

You need both ingredients

KETONE LACQUER SOLVENTS

give complete flexibility in formulating, improved quality . . . and a price advantage, too!

Ketone-based solvent systems are inherently superior for lacquer formulations because of their high solvency for both nitrocellulose and vinyl resins.

High-purity ketones yield solutions of exceptionally high solids content, or permit greater diluent content . . . with either aromatics or aliphatics. In any formulation, ketones impart excellent flow, blush resistance and gloss.

Still another important advantage—the low specific gravity of ketones favors *you* when you buy by the pound and sell by the gallon.

The Shell Chemical "quality group" of solvents includes MEK, MIBK, EAK, MIBC, IPA and Ethyl Alcohol.

Ask your Shell Chemical representative to help you evaluate ketones for your own formulations.

SHELL CHEMICAL CORPORATION

CHEMICAL PARTNER OF INDUSTRY AND AGRICULTURE

380 Madison Avenue, New York 17, New York

Atlanta • Boston • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco • St. Louis

IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited • Montreal • Toronto • Vancouver

The answer to a tough finishing problem on* JAMESWAY *incubators:

Guardsman®
CHEMGARD and GLOGARD

Commercial hatchery incubators stand idle much of the year in unheated rooms that are often damp. These conditions create a serious corrosion problem unless units are properly finished. The James Manufacturing Company ended its search for the right finish with this 2-coat baking system:

CHEMGARD PRIMER	
TYPE	Epon
COLOR	Gray
APPLICATION	Spray (reduce 5 parts primer with 1 part special reducer)
BAKE	20 min. at 375°
HIDING	Fair, not solid
GLOSS	80
FLOWING	Excellent
ADHESION	Excellent
FLEXIBILITY	Excellent
TOUGHNESS	Excellent
HUMIDITY RESISTANCE	Excellent
DETERGENT RESISTANCE	Excellent

GLOGARD ENAMEL	
TYPE	Alkyd-amino resin
COLOR	White
APPLICATION	Spray (reduce 5 parts enamel with 1 part SC #2 or Xylol)
BAKE	30 min. at 300° or 20 min. at 325°
HIDING	Solid, 1 coat over primer
GLOSS	85
FLOWING	Good
ADHESION	Good
FLEXIBILITY	Good
HARDNESS	HB pencil
HUMIDITY RESISTANCE	Good
DETERGENT RESISTANCE	Good
COLOR RETENTION	Good

GRAND RAPIDS VARNISH CORPORATION

GRAND RAPIDS, MICHIGAN

Makers of the Famous Guardsman® Finish and Guardsman® Cleaning Polish

OCTOBER, 1955
Vol. XXXI, No. 12

BPA

A monthly magazine for company executives, production superintendents, process engineers, chemists, purchasing agents, paint shop and finishing department foremen of industrial plants where product surface cleaning and painting are major operations in the manufacture of parts and products of all kinds.

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

Contents

Random Comment on the Industrial Scene 4
Reader Service Department 17
Seven Years With Infrared Baking Paint on Auto Bodies 26
Floating, Flooding, Streaking or Lab. vs. Production Spraying 40
Reverse Roller Coating 52
Where Small Shops Can Save 58
Editorial 68
Infrared Dries Finish on Fine Wood Tables 76
Some New Developments in Screen Process Work 84
Letters from Readers 90
Questions and Answers 98
Materials; Supplies; Equipment 102
Manufacturers' Literature 116
Classified Advertising Department 127
Advertisers Index 131

New Sales Personnel at Eclipse 39
More Firms Franchised to Apply Sprayable Plastisol 50
Pelron Corp. in Production on Resins & "Foam" Materials 62
Conveyor Makes Short Radius Turn 62
Amos, Chairman of Industrial Product Finishes Committee 64
Automation—What to Expect From It 73
Parker Rust Proof Co. had 40th Birthday 75
Paint, Varnish & Lacquer Ass'n. Convention in Washington 75
Binks Builds Plant Addition 88
Paynton Represents Landau Co. In Part of N.J., N. Y. 88
Sears Technical Apptmts. 101
More Vinyl Acetate Capacity 114
Are You Now Satisfied With the Following? 123
More Spray Painting 124
Peters-Dalton Co. Becomes Part of Detroit Harvester 125
Patching, Touch-up Course 125
Blushing of Lacquer 126
American-Marietta Buys Firm That Makes Can Linings 127
Repair Finishing Book Reveals New Professional Methods 127

Accepted as Controlled Circulation Publication at Indianapolis, Indiana

Published
the 18th of each month by
PRACTICAL PUBLICATIONS
Incorporated
1142 N. Meridian St.
Indianapolis 4, Ind.
Telephone MElrose 5-6771

President.....W. H. Rohr
Vice-President.....E. A. Dosch
Sec.-Treas.....R. E. Sults

Eastern Representative:
C. A. LARSON
254 West 31st St.
New York 1, N. Y.
Phone: Longacre 4-4235
4-4236

West Coast Representative:
SIMPSON-REILLY LTD.
Halliburton Building
Los Angeles 17, Calif.
Telephone: Dunkirk 8-1179
814 Central Tower
San Francisco 3, Calif.
Telephone: Douglas 2-4994

Subscription Rates Per Year
U. S. and Possessions.....$3.00
Canada and Foreign.....$5.00

31 THIRTY-FIRST YEAR OF PUBLICATION

Chrome Coating by Heat Process. Chromallizing, widely known and used in Europe but only recently emerging from the experimental laboratories to the production lines in this country, is a relatively new process for increasing the heat, wear and corrosion resistance of ferrous metals by high temperature diffusion of chromium into the surface.

During the high temperature exchange reaction, chromium diffuses inward to form a true alloy layer that does not spall, peel or flake. . . .

* * *

Color; Distance. Whether an object appears to be far away or near to you, can depend on its color, according to the findings of a research project conducted by the Psychological Laboratory of The Johns Hopkins University Institute for Cooperative Research in collaboration with Pittsburgh Plate Glass Co. to determine the effects of color on distance.

The investigation revealed that a bright surface appears closer than a dark one with a maximum average change in apparent distances of about 17%.

As much as 19% change in apparent distance can be attributed to hue changes for saturated hues or deep colors. Less saturated hues—pastel colors—show the same effects but to a lesser degree.

Hues of longer dominant wavelength appear closer than hues of shorter dominant wavelength. In general, highly saturated colors tend to appear closer than colors of low saturation.

* * *

Acid-Proofs Your Floor. A new method of protecting concrete, bituminous, mastic or other industrial floors against acids, water, and cutting oil damage is announced by Maintenance Inc., Wooster, Ohio.

It consists of applying a seal coat of liquid Jennite J-16 over the exposed floors, according to the manufacturer. This can be accomplished by either brush, spray or squeegee at the rate of one gallon per 100-sq.ft. While two coats are said to give adequate protection, three applications are recommended in extreme cases.

The final coat should be allowed to cure eight hours before use. If an abrasive surface is desired, this can be obtained by incorporation of silica sand into the top coat. J-16 dries to an attractive velvety gray-black.

* * *

Paste Hardens Metal Surface. Hardfacing pastes, which can be applied without special skill to impart a deposit of high hardness and excellent abrasion resistance, have been developed by Western Carbide Corp., subsidiary of Superweld Corp., 6840 Vineland Ave., No. Hollywood, Calif.

According to Robert E. Jones, Western Carbide president, Hi-C 60 "Ruf-Nek" paste introduces an en-

WHAT'S NEW TODAY?

HERE ARE 3 TEAMS THAT ARE TOPS!!

1. **FOR:** TERRIFIC Value—extremely heavy body—highest resistance to checking and marring.

(USE:) 8800 HI-SOLIDS LACQUER with 1830 COMPANION SEALER.

2. **FOR:** POSITIVE, PERMANENT WATER-WHITE—with outstanding qualities.

(USE:) 3740 WATER-WHITE LACQUER with 1545 WATER-WHITE SEALER.

3. **FOR:** HIGHEST QUALITY competitive finish—Beautiful rubbed effects, perfection's peak.

(USE:) 4600 FULL BODIED LACQUER and 2125 SUPER SEALER.

Please specify desired sheen—gloss, satin or flat.

We will ship drums (or 5 gals.) of any items listed—with our absolute guarantee of satisfaction. Order today.

Also: *Ask us about DOLVAR and INSTANT STRIPPER!*

"From the start consider the Finish"

V. J. DOLAN & COMPANY, Inc.

Manufacturers of "Unquestionable Quality"

INDUSTRIAL FINISHES

1830 N. Laramie Ave. Berkshire 7-0100 Chicago 39

POTTER THINNERS

2 available from LOCATIONS

Now, two strategic locations
CORTLAND, NEW YORK
CAMBRIDGE CITY, INDIANA

bring you
- Faster Prepaid Delivery —
- Lowest Cost
- Localized Custom Service

POTTER's reputation for highest quality thinners at lowest cost has gained us over 600 satisfied users.
- *Specialization—over 30 years experience in making only thinners.*
- *Large Sales Volume*
- *Streamline Overhead*
- *Solvent bought in tank car lots only*

POTTER'S THINNERS ARE EASY TO TEST. Just mix with your lacquer and observe results. If it mixes all right and dries all right — it is all right.

☐ Check here, give your name and address and mail TODAY for FREE "tailor-made" sample.

The product we make is:_____
We use Lacquer Thinner for:
☐ Spray ☐ Dip ☐ Cleaning ☐ Other_____
We use Lacquer Thinner on
☐ Metal ☐ Wood ☐ Other_____
We want it to dry:
☐ Fast ☐ Slow ☐ Medium

Name_____
Address_____
City_____ Zone____ State_____

POTTER PAINT CO.
Cortland 1, New York
or Cambridge City 1, Indiana
Write to your nearest location.

tirely new concept of hardfacing. Available in tubes or jars, the new paste can be used on any metal whose melting point is higher than that of the paste (1850° F.).

The paste is deposited in a layer up to ⅜-in. on the surface to be hardfaced. Heating the base metal by flame, or high-frequency induction up to the fusion point of the paste, causes the paste to fuse and bond to the base metal.

* * *

Leather Colors. At the recent leather show held in New York, some 8300 manufacturers and retailers came to look and buy. Irving R. Glass, executive vice president of the Tanners Council of America, said that leather shipments this year are at least 10% ahead of last year.

Among the new colors are "Ironwood", a brown shade; a warm tan, and pale off-white shades such as vanilla and white bark.

Manufacturers and designers attended to see what's new in colors. We will see some of the new leather colors used in furniture and other items for the home and office.

* * *

Prevent Corrosion. Is your maintenance cost excessive on floors, ceilings, structural steel? Is replacement cost high on pipes, tubing, stacks and ductwork? If the cause is due to corrosive fumes or spillage or dripping of corrosive solutions, the problem can be solved.

A series of specialized coatings are available. Each is different from the other; each is intended for a specific corrosive condition. Some are solutions of synthetic resins in volatile solvents. These dry by solvent evaporation. Others are oil-based and dry by oxidation. Others, based on thermosetting resins, require baking.

These coatings resist most acids, alkalis, methyl alcohol and many other corrosive elements.

(Continued on page 126)

SPRUANCE IS IN THE LACQUER BUSINESS

We have been supplying the furniture trade and the makers of television cabinets finishing materials from the bare wood to the final operation.

One of our specialties is Water White Lacquer considered by many to be the finest ever made. If you are interested in the blond type finishes so popular today, we have a water white lacquer and a companion sealer to meet the most exacting specifications.

Our lacquers are formulated to rub. They will withstand cold checking. They are durable and tough. If you want one that is alcohol resistant we can make it. Anything in lacquer — Spruance can make it. When you think of lacquer, think of Spruance.

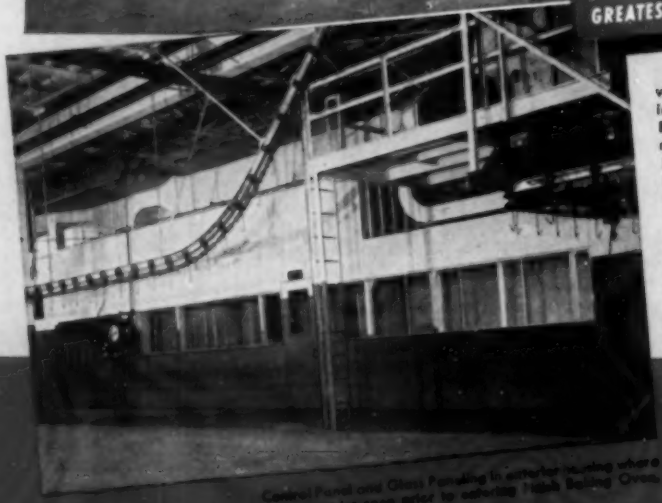
SPRUANCE IS IN THE LACQUER BUSINESS

THE GILBERT SPRUANCE COMPANY

PHILADELPHIA 34, PA. • WINSTON-SALEM, N. C.

COMPLET

. . . the **EXPERIENCE** that goes into the **PLANNING** and **ENGINEERING** of **MAHON EQUIPMENT** is the item of **GREATEST VALUE to YOU!**



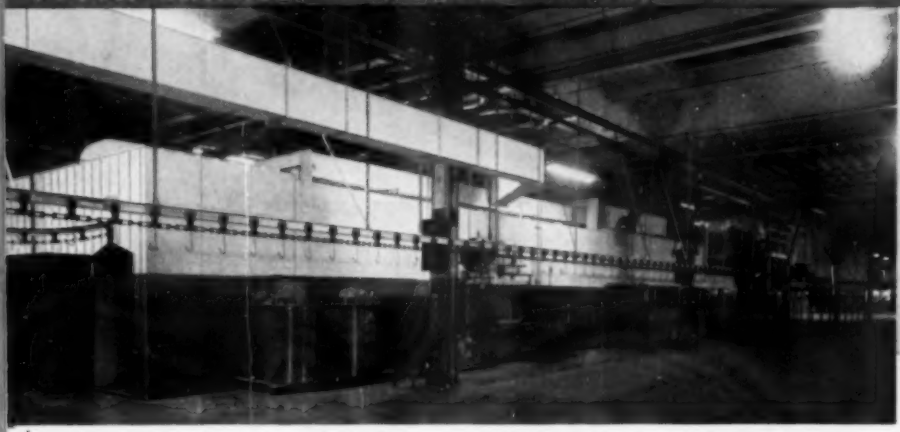
Control Panel and Glass Panelling in extractor-ventilated booth where parts may be seen prior to entering Finish Baking Oven.

At the right above is a general view of the Complete Mahon Finishing System for Flow-Coating Black Enamel Parts at Chrysler Corporation of Canada, Limited. The 80 Ft. x 24 Ft. 450° Enamel Baking Oven, which is built against the roof trusses to provide storage space below, is visible in the background. Directly above is a close-up of the entrance end of the Flow-Coater showing Paint Mixing Tanks, Solvent Tank, Recirculating Equipment and Operating Control Panels.

M

Finishing SYSTEMS

. . . for ENAMELS • LACQUER • PAINT • VARNISH



Black Enamel Parts at CHRYSLER CORPORATION of CANADA, LIMITED are FLOW-COATED in a COMPLETE MAHON FINISHING SYSTEM!

In addition to the body finishing system at the Windsor plant of Chrysler Corporation of Canada, Limited, Mahon also installed a complete finishing system for black enamel parts. This is a Flow-Coating System which includes a Mahon Flow-Coating Machine, a Ventilated Active Drip Zone, a Ventilated Inactive Drip Zone, and a 450° Finish Baking Oven with storage space below. Two Enamel Mixing Tanks and a Solvent Tank are provided outside the enclosure. The recirculating unit is equipped to automatically maintain the enamel at a specific temperature in the Flow-Coating Chamber. This is a typical Mahon Flow-Coating system, complete in every detail—automatic from start to stop. If you have a finishing problem, or are contemplating new finishing equipment, you will find that Mahon engineers are better qualified to advise you on both methods and equipment requirements . . . and better qualified to do the all-important planning and engineering of equipment—which is the key to fine finishes at minimum cost. Whether your job is to be Flow-Coated, Dip-Coated, or Spray Painted either Manually or by Electrostatic Process, you will find that Mahon equipment will serve you better, because it is engineered better and built better for more economical operation over a longer period of time. Mahon will do the complete job for you on one contract—undivided responsibility for the entire system insures proper coordination and safeguards you against complications which may upset your production plans and subsequent schedules. See Mahon's Insert in Sweet's Plant Engineering File, or write for Catalog A-656.

THE R. C. MAHON COMPANY • Detroit 34, Mich. • New York 17, N. Y. • Chicago 4, Ill.

Engineers and Manufacturers of Metal Cleaning and Pickling Equipment, Metal Cleaning and Rust Proofing Equipment, Spray Booths, Flow and Dip Coaters, Drying and Baking Ovens, and Complete Conveyorized Finishing Systems.

MAHON

THEN

When Lilly Varnish Company was founded back in the "horse and buggy" days, the little Lilly plant looked like this . . . and the one product was varnish.

—1865—

and NOW

Just as we have progressed from horse and buggy travel to modern jet aircraft speed, Lilly has kept pace—continually growing . . . improving . . . expanding and modernizing facilities to meet the changing needs of industry. Today Lilly plants are conveniently located in Indianapolis, Indiana; High Point, North Carolina; and Gardner, Massachusetts. And, Lilly furnishes manufacturers with ALL types of Industrial Product Finishes and coatings:

VARNISHES • LACQUERS • ENAMELS

METAL LITHO COATINGS • STAIN and WOOD FILLERS

LILLY VARNISH COMPANY
Indianapolis, Indiana

LILLY VARNISH COMPANY OF MASSACHUSETTS
Gardner, Massachusetts

THE LILLY COMPANY
High Point, N. Carolina

Hot water compression tanks manufactured by the Bell & Gossett Company, Chicago, Illinois, are finish-coated with Clinco Aluminum Hammerloid, a tough protective coating supplied by THE CLINTON COMPANY, Chicago, and pigmented with ALCOA Aluminum. "Clinco" helps B&G sell nearly 50,000 of these compression tanks a year. Compression tanks, also called expansion tanks, are used on all forced hot water heating systems. When partially filled with air, they provide the space needed for water expansion while being heated.

Clinco Aluminum Hammerloid was chosen by Bell & Gossett for four important reasons: (1) eye appeal, which makes the product easier to sell; (2) resistance to scuffing from handling and installation; (3) greater coverage (actually three times greater than the finish formerly used); (4) good adhesion in spite of severe temperature fluctuations in the tanks.

Paint manufacturers working with ALCOA Aluminum Pigments have developed a rainbow of dazzling Polychrome Metallic Finishes that are building big sales—and adding extra value—to a wide variety of products. These finishes cost little more than ordinary coatings, but they save money on surface preparation.

Get the facts from your paint manufacturer or write ALUMINUM COMPANY OF AMERICA, 1732-K Alcoa Building, Pittsburgh 19, Pennsylvania.

PIGMENTED WITH
ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA
"ALCOA

look ma, one hand

literally "LIQUID ENVELOPE"

the original, firesafe, strippable
SPRAY-BOOTH COATING

peels off spray-booths that easily!

A gag? No, a fact! It's easy to *peel* booths *clean* with "Liquid Envelope." Spray on. When overspray accumulates, peel off and re-coat. Takes only minutes. Saves labor. Promotes firesafety. "Liquid Envelope" film will not burn or support combustion. Improves illumination, too. In use from coast-to-coast for over 10 years. Try it. Order a 5-gallon test sample at drum-lot price from your nearest distributor.

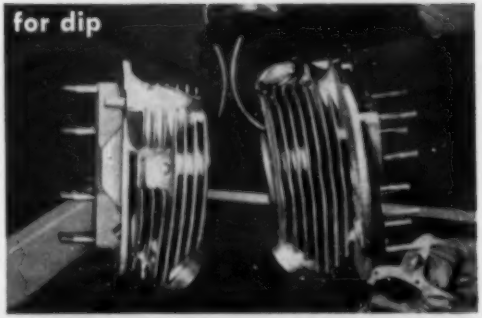
BETTER FINISHES & COATINGS, INC.
268 Doremus Avenue, Newark 5, New Jersey
2014 East 15th St., Los Angeles 21, California

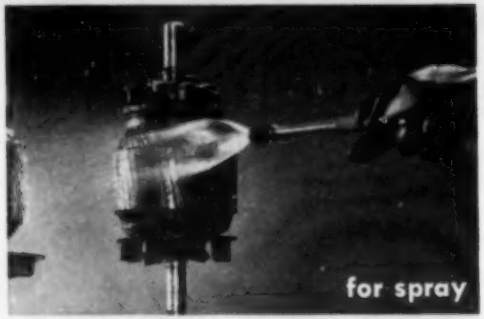
DISTRIBUTED BY

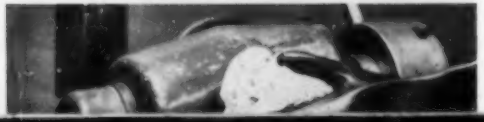
Abrasive & Supply Co., Detroit, Mich.
Air Engineering Corp., Baltimore, Md.
Aviation Lubricants Co., Inc., San Diego, Calif
Bay State Spray Equipment Co., Springfield, Mass.
C & H Supply Co., Seattle, Wash.
The Dean & Barry Co., Columbus, Ohio
Edgcomb Steel of New England, Inc., Milford, Conn.
Eloy's Newport News, Va.
Ellicott Paint Co., Inc., Buffalo, N. Y
Franklin Supply Co., Providence, R. I.
General Spray Equipment Co., Needham, Mass.
Globe Chemical Co., Louisville, Ky.; Cincinnati, O.
The Hubbard Co., San Francisco, Calif.
Kellermann Paint Co., New York, N. Y
Koehler Rubber & Supply Co., Cleveland, Ohio
The Lea Manufacturing Co., Waterbury, Conn.
The Leonard Co., St. Louis, Mo.
Nelson Industrial Supply Co., Grand Rapids, Mich.
Mid States Industrial Corp., Rockford, Ill.
Vic Minor Co., Toledo, Ohio
O'Donohue Sales Co., Milwaukee, Wis.
Paints & Lacquers, Inc., Chicago, Ill.
Pauli & Griffin Co., San Francisco, Calif.
Plastic Paper Co., Los Angeles, Calif.
Porter Paint Co., Louisville, Ky.
Protective Prod. Distributors, Hamburg, N. Y.
R. W. Renton and Co., Cleveland, Ohio
Hugh Russell & Sons, Ltd., Montreal, Can.
Scobell Chemical Co., Rochester, N. Y.
Sprayway Co., Los Angeles, Calif.
Supplee-Biddle-Stoltz Co., Philadelphia, Pa. (Industrial Division)
Tanner and Co., Indianapolis, Ind.
Tri-State Supply Equipment Co., Omaha, Neb.; Rock Island, Ill.
In Europe:
Jensen & Nicholson, Ltd., London, Eng.

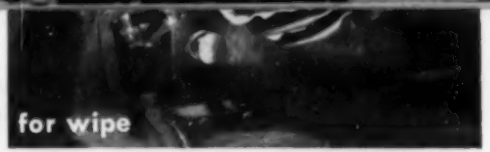
DOW . . . industry's most complete line of chlorinated solvents

DOW









with every use, you'll find more to like about

CHLOROTHENE

(Dow 1,1,1-Trichloroethane, Inhibited)

This general-purpose cold degreasing solvent, after extensive research, development and commercial use, has established itself as one of the most *versatile* solvents ever developed. CHLOROTHENE* has extremely *high solvent power* . . . makes short work of greases, oils, tars, waxes, the most troublesome contaminants. Yet stabilized CHLOROTHENE has extremely *low corrosive effects* on all common metals. Its greater *safety* appeals to users, too . . . M.A.C. is 500 ppm., as compared to carbon tetrachloride's M.A.C. of 25 ppm. Another safety feature: CHLOROTHENE has no flash or fire point; it is certificated† for use as a ships' stores article by the U. S. Coast Guard.

Easy-to-use CHLOROTHENE is made *exclusively* by Dow. Call your Dow distributor today for a supply. He's your source for vapor-degreasing solvents, too . . . stabilized DOW TRICHLOROETHYLENE and DOW PERCHLOROETHYLENE. For more information on these superior chlorinated solvents, and for the name of your local Dow distributor, just drop a line to THE DOW CHEMICAL COMPANY, Dept. S672B. Midland, Michigan.

†203 *26 April 1955*

Certificated for use as an article of stores on board vessels. This certificate covers only hazard in the use of this product. The efficiency of this product is not passed upon.

*Trademark

you can depend on DOW SOLVENTS

DOW

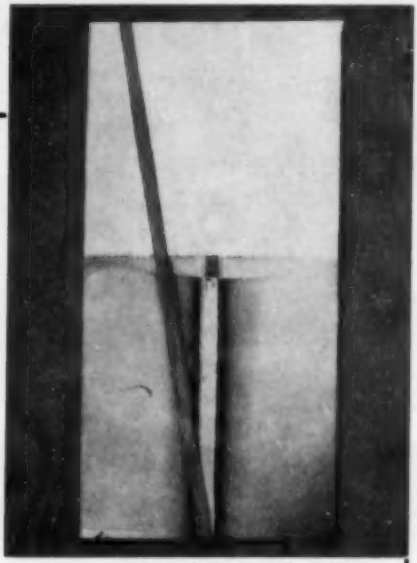
NIKOLAS

SINCE 1890

Quality Finishes

FOR THE

PLATING INDUSTRY



Actual Unretouched Photo

QUALITY THAT SPEAKS FOR ITSELF—The upper half of the above silver plate was finished with Nikolas 2105 Clear Lacquer; the lower half with competitive recommended clear silver lacquer. A rubber band was placed over the two finishes and in two weeks the free sulfur had penetrated the competitive material with the above results.

The same results can be expected when testing No. 2105 Clear Lacquer for Hardness, Mar-resistance and Discoloration from direct sunlight.

The finest plated goods are protected by Nikolas Clear Finishes.

Eye Appeal Sells Your Product!

Why jeopardize your reputation with inferior finishes when the finest cost no more?

FOR INFORMATION, SAMPLES AND RECOMMENDATIONS

WRITE — WIRE — OR CALL

G. J. NIKOLAS & CO., INC.

2850 WASHINGTON BLVD., BELLWOOD, ILL. • 33 GRAND ST., BROOKLYN 11, N. Y.

The READER SERVICE *Department of*

Industrial FINISHING

Offers you additional information on the materials, equipment, accessories and supplies advertised in this issue. Just fill in the name of advertiser and page number of advertisement in question, on the card below; print or type your own name, your company's name and address, detach and mail. No postage required.

For further information and copies of manufacturers' literature mentioned in the editorial departments, use "Reader Service" return card in the rear section of this issue, page 116.

Industrial FINISHING October, 1955 Issue

Reader Service Department

Without obligation, please see that we receive additional information and literature on the items featured in the advertisements of those firms written in below:

(NAME OF ADVERTISER) (PAGE NO.)

.....

.....

.....

.....

.....

.....

.....

.....

Name.....*Title*.....
(PLEASE PRINT)

Company Name.....

Street Address.....

City.....*Zone*.....

State.....

At Your Service

Many inquiries come to INDUSTRIAL FINISHING Magazine for information about technical problems, methods and processes; and for sources of supply for materials, equipment and supplies to be used in connection with surface preparation and conditioning, paint application, sanding, paint drying and baking, rubbing, polishing, etc.

Surfaces to be completely or partially coated for protection, decoration or for any other purpose, include components and articles made of metals, plastics, woods, and composition materials; also paper, leather, rubber and fabrics.

The services of testing laboratories, finishing consultants and special technicians are often requested. These inquiries are promptly answered. As a result, new products, materials and sources of information are continually being uncovered; valuable contacts are made and timely suggestions for future articles to be published are developed.

Postage Will Be Paid by Addressee

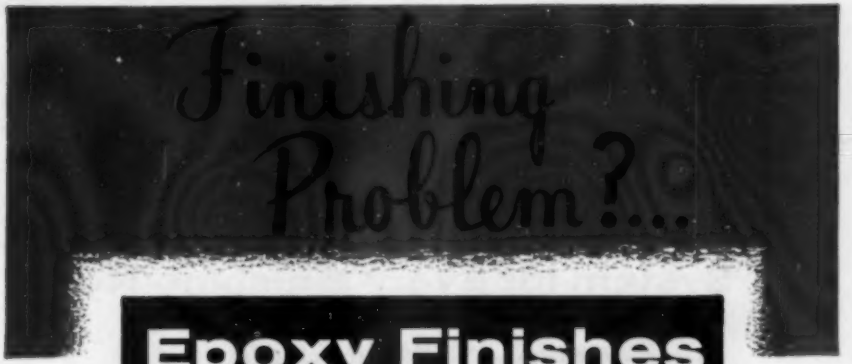
No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
First Class Permit No. 1490, Indianapolis, Indiana

Industrial Finishing Magazine

1142 N. Meridian Street

Indianapolis 4, Ind.



Epoxy Finishes

NEW HORIZONS FOR EPOXY RESIN FINISHES

Watson-Standard's experience in producing epoxy resin finishes sets new standards for the metal coating industry. Coatings of epoxy resins in combination with vinyls and phenolics as well as esters and straight epoxies meet the most demanding requirements:

1. **Excellent Chemical Resistance**
2. **Outstanding Adhesion to Metal**
3. **Superior Toughness-and Flexibility**
4. **Better Fabricating Qualities**

These finishes are successfully used for refrigerators, caps and closures, drum and pail linings, quick bake coatings and many others. Perhaps the answer to your finishing problem is an epoxy resin coating.

Take advantage of Watson-Standard's experience. Let us help you with your coating problems.

"Knowledge, skill and technique through experience!"

Watson-Standard Co.

225 Galveston Ave., Pittsburgh 30, Pa.

NEW YORK OFFICE: 15 Park Row, New York 38, N. Y.
CHICAGO OFFICE: 55 E. Washington Street, Chicago 2, Ill.

INDUSTRIAL FINISHES • PAINTS • PLASTICS • CHEMICALS

from Books to Bombs

There's a Paasche Automatic Airfinishing System for Every Finishing Need

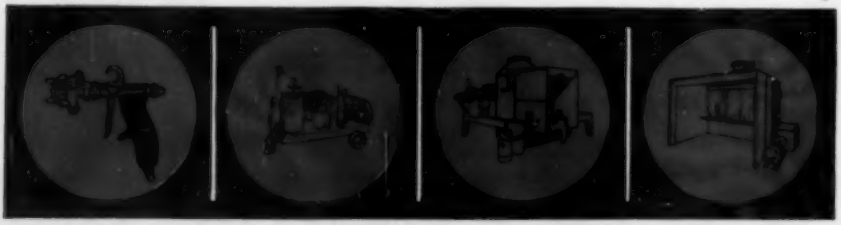
Paasche leads the field in the design and manufacturing of Airfinishing Systems

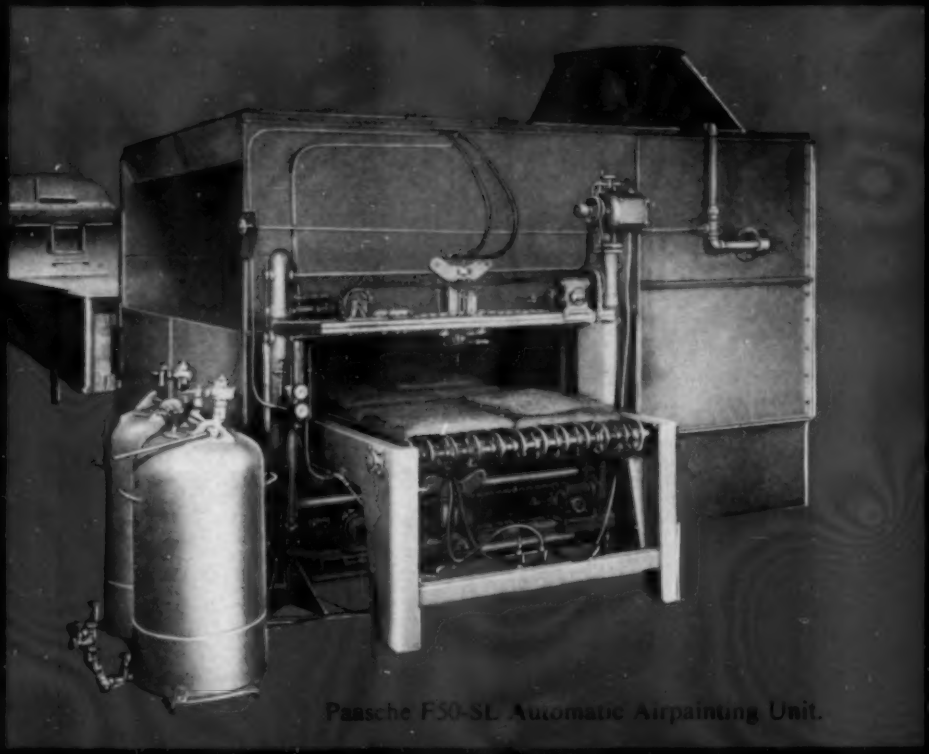
Yes, from the delicate job of the artist to the rugged job of the assembly-man—there's a Paasche Automatic Airfinishing System for every finishing need.

Paasche Systems paint, clean, flock or protectively coat objects of any size or shape—small parts with complex curves; massive flat surfaces; deep tubular interiors or spherical surfaces. Regardless of the size or shape of the object to be treated, no hidden pockets or crevices can escape the probing touch of Paasche controlled air.

Paasche Systems, standard-design or custom-engineered, are easy to operate and generally require the service of only one man. They are simple in design and clean up fast and easy. Maintenance is never a problem.

In addition to Automatic Systems, Paasche is also a leading manufacturer of Semi-Automatic Airfinishing Units, Portable Units, Self-Cleaning Water-Wash Airfinishing Booths and Artists' Airbrush Equipment.





Paasche F50-SL Automatic Airpainting Unit.

The Paasche Model F50-SL shown above is a Dual Automatic Oscillating Gun Mounting Unit used extensively for flat work such as coating the top and bottom of air filters and other pieces that lend themselves to this type of application. This unit has a steam-heated drying oven that provides thermo-controlled temperatures up to 250°F. capacity. Temperatures are automatically determined by length of drying time required.

Send for New Catalog . . . for further information on the complete line of Paasche Airfinishing Systems, write for our new Catalog AAE-9-55.

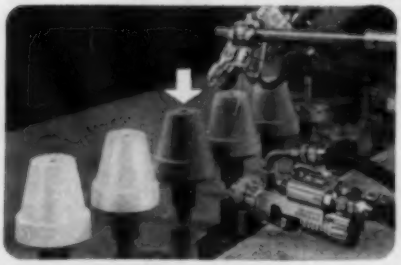
Automated Airbrush and Spray Equipment Since 1904

PAASCHE
AIRBRUSH CO.
1917 DIVERSEY PARKWAY
CHICAGO 14, ILLINOIS

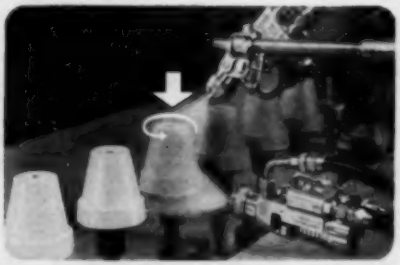
DIVISION OF CLINE ELECTRIC MANUFACTURING COMPANY

DeVilbiss automatics end

1 DeVilbiss automatic applies a flawless, uniform finish to flower pots at the rate of 3600 an hour. Spray cycle is synchronized with conveyor travel.



2 With spindles six inches apart, chain-on-edge conveyor moves pots into position.



3 At precise instant, two guns spray with overlapping patterns; pot revolves three times.

reject problems . . .

once and for all!

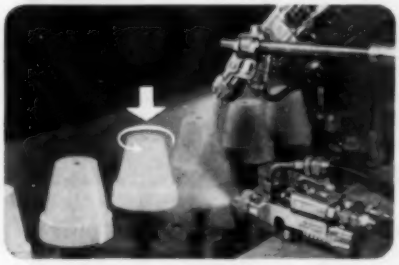
Just load your product on a high-speed DeVilbiss spray machine, and reject problems are gone forever! Split-second timing, accurate gun positioning, and synchronized conveyor speeds prevent streaks, sags, and wasteful overspray. You actually *save* materials, as you produce consistently better finishes in a fraction of the time consumed by manual methods.

Test run shows how you save

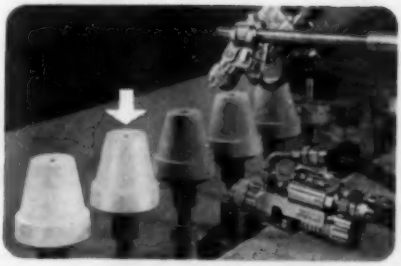
DeVilbiss offers automatic spray machines for painting products of practically any size or shape, and for use with most conveyor systems. To have us run a test on your product and report savings *before you invest a cent*—send us full data about your product, coating applied, number of coats, and production rate desired.

THE DEVILBISS COMPANY
Dept. 331-A, Toledo 1, Ohio
Santa Clara, Calif. • Barrie, Ontario
London, England
Branch Offices in Principal Cities

FOR BETTER SERVICE, BUY
DEVILBISS



4 Painting takes one-half second. If spindle is empty, machine skips it; guns don't spray.



5 Finished pot moves as next one takes position. Total cycle only lasts one second.

22 Laboratories at YOUR service

YOUR JOB, LIKE THESE SHOWN ABOVE, WILL BE TEST PROVEN

under simulated production conditions to determine cost-saving benefits and other advantages. Ransburg also maintains other test facilities in Los Angeles, London, England; Bad Hersfeld, Germany; Paris, France and Sydney, Australia.

to prove the painting of YOUR products with

RANSBURG

Electrostatic Painting Processes

Let us make laboratory tests and prove the advantages and cost-saving benefits of painting YOUR products AUTOMATICALLY with one of the Ransburg Electro-Spray Processes.

GET THE FACTS . . . IT COSTS YOU NOTHING!

● **First,** Ransburg sales engineers will make a survey in your plant to check the possibilities of using Electrostatic Spray Painting on your products. Next, you will send samples of your unpainted products—with paint—to the Ransburg laboratories in Indianapolis.

Here, the technical staff takes over. The Ransburg Engineering staff—which includes PH.D's and Masters in Physics, Science, Electrical, Mechanical and Chemical Engineering—makes a complete study of your job. Not only do they have the necessary academic training, but they have the "know how" gained from years of actual experience in the field. Ransburg, you know, was the pioneer in Electrostatic Spray Painting 15 years ago. Engineers and well-qualified technicians have at their disposal every facility for conducting complete tests, simulating your own production conditions. They'll decide which type conveyor is best suited for your job. (There's a conveyorized lab set-up—22 in all—to handle products ranging in size from automobile bodies and chassis to small components, such as window hardware.) They'll design workholders, if necessary, and determine exactly how your job can be run to your best advantage. Details, such as fixture spacing, will be worked out too.

After preliminary studies and tests, you are invited to Indianapolis to see your job run in the lab. If you wish, photos and even movies of your test run can be made and furnished for your own production people to study. You see first-hand what Ransburg Electrostatic Spray Painting can do for you in your own plant.

YOU GET PAINT AND LABOR SAVINGS

Paint usage is accurately measured during the demonstration. The Ransburg No. 2 Process will provide savings up to five times the paint mileage of hand spray. And, one unit can do the work of many hand sprayers. You will see the improved, uniform quality of the work . . . you'll know what kind of increased production to expect, and you can recognize labor savings. ALL OF THIS WITHOUT OBLIGATION.

Ransburg service doesn't end there. After the equipment is installed in your plant—with our supervisory help—we will train your operator and continue to work with your finishing department. Our technically-trained field service engineers are always available to assist with any of your finishing problems.

Briefly, that's our story. Now it's your move. Call or write.

DEPT. I

Ransburg

ELECTRO-COATING CORP.

Indianapolis 7, Indiana

When Studebaker trucks are completely assembled they are given a final finish inspection. Any defects or marred areas then get a touch-up, first with an application of prime coat followed by a 7-minute bake and then a finish coat and 14-minute bake. All colors are baked in the same time cycle in these touch-up ovens, just as they are on wheels and bodies.

Seven Years With Infrared

Baking Paint on Auto Bodies

BY JULIUS M. GAUSS*

IN 1946 THE STUDEBAKER Corporation acquired a former Government-owned plant on the south side of South Bend, Ind., and began planning the use of its million square feet for the manufacture of trucks. When the project for equipping the plant was originally discussed the question of paint baking facilities came up.

Like most automotive manufacturers, Studebaker had had some experience with infrared processing, having two early type ovens on repair lines. This experience had not encouraged us to go farther. Little data was available on comparative operating costs and, more importantly, on performance capabilities. Studebaker, however, is not tied to tradition, therefore we were determined to explore all phases of radiant oven processing before casting the die on equipping the new plant.

Conflicting Reports and Confusion About Infrared

Initially an inspection group visited certain other automotive plants to inspect all oven types in operation, including the plant of White Motor Co. in Cleveland. A great deal of confusion and many conflicting reports were found. Among some of the beliefs which existed in the automotive industry were that:

1) Infrared was satisfactory for prime coats but not for color coats.

2) Infrared was not satisfactory for prime coats because tremendous volumes of air were required.

3) Infrared was to be preferred for color coats because of less tendency to discolor. [*To page 28*]

*The author, now retired, was for many years in charge of material control and finishing operations for all plants of The Studebaker Corp. He is widely known as an authority on automotive finishing and as such, his conclusions are of more than passing interest.

Although much has been published about new infrared installations in recent years, the most vital question—"Have infrared ovens passed the test of time?"—has been unanswered. This article, to our knowledge, represents the first attempt to evaluate infrared in the automotive manufacturing industry on the basis of several years of actual production experience. And it is authored by a man of unquestioned competence in the finishing field.—The Fostoria Pressed Steel Corporation.

4) Infrared was competitive in operating cost with other fuels.

5) Infrared was too expensive for general use.

6) Infrared should be combined with convection in a recirculatory setup.

7) It was not practical to combine convection and infrared for several reasons.

Our group from South Bend carefully collected these conflicting stories and studied them. Gradually it appeared through the sorting process that the type of installation had a great deal to do with the endorsement or condemnation of the process, and that companies employing purely radiant ovens, such as White Motor Co., were producing satisfactory prime and color coats at competitive operating costs.

Upon reporting the survey findings to Mr. Vail, Vice President in charge of manufacturing at South Bend, it was decided that the next step would be an actual full scale testing of automobile bodies and components.

We Found Out Facts by Making Full Scale Tests

Accordingly, in August of 1947 a selected group of Studebaker men visited the plant of a leading manufacturer of infrared equipment where full size body ovens had been set up in readiness. A body in the white (unpainted) was mounted on the regular production dollie. The body was prepared by attaching 11 thermocouples, located as shown in Fig. 1, and the oven was adjusted to provide uniform metal tempera-

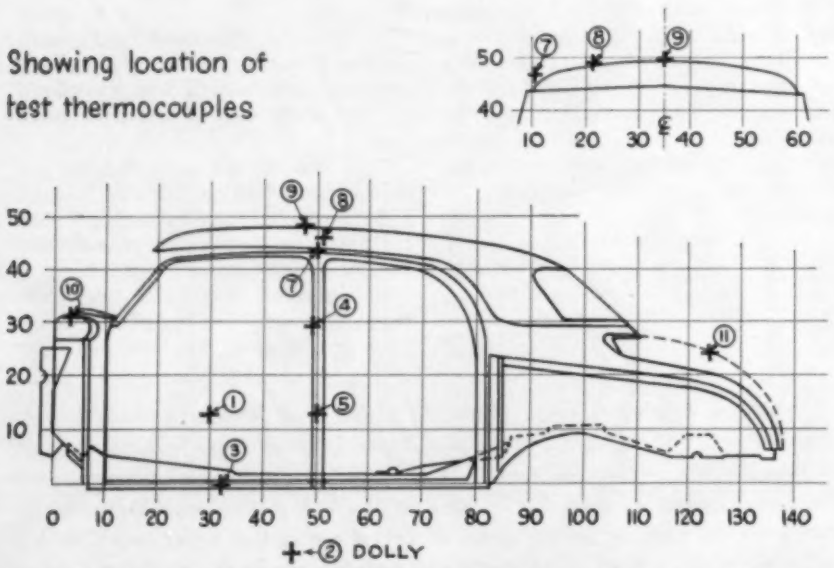
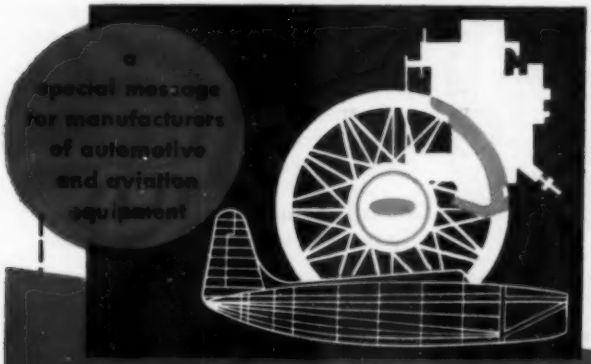


Fig. 1—Where thermocouples were attached before sending a test body through the oven.



need a finish for low cost corrosion protection or showroom sparkle? *specify*

IRIDITE

Here's a finish for non-ferrous parts that gives high corrosion protection, a firm and lasting base for paint or showroom sparkle . . . yet at low material and production costs. And, you can easily "Touch-up" scratches, repairs, welds, etc. on light metal parts! Here's Iridite . . . and here's how you can use it:

ON ZINC AND CADMIUM you can get highly corrosion resistant finishes to meet any military or civilian specifications and ranging in appearance from olive drab through sparkling bright and dyed colors.

ON COPPER . . . Iridite brightens copper, keeps it tarnish-free; also lets you drastically cut the cost of copper-chrome plating by reducing the need for buffing.

ON ALUMINUM Iridite gives you a choice of natural aluminum, a golden yellow or dye colored finishes. No special racks. No high temperatures. No long immersion. Process in bulk.

ON MAGNESIUM Iridite provides a highly protective film in deepening shades of brown. No boiling, elaborate cleaning or long immersions.

AND IRIDITE IS EASY TO APPLY. Goes on at room temperature by dip, brush or spray. No electrolysis. No special equipment. No exhausts. No specially trained operators. Single dip for basic coatings. Double dip for dye colors. The protective Iridite coating is not a superimposed film, cannot flake, chip or peel.

WANT TO KNOW MORE? We'll gladly treat samples or send you complete data. Write direct or call in your Iridite Field Engineer. He's listed under "Plating Supplies" in your classified telephone book.

ALLIED RESEARCH PRODUCTS
INCORPORATED
4004-06 E. MONUMENT STREET • BALTIMORE 5, MD.

Iridite is approved under government specifications

Manufacturers of Iridite Finishes for Corrosion Protection and Paint Systems on Non-Ferrous Metals, ARP Plating Chemicals, [illegible]

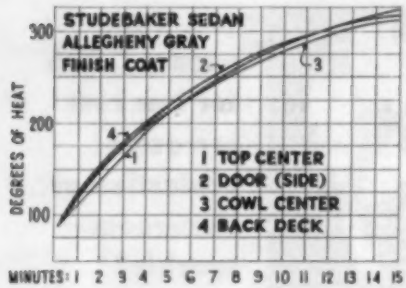


Fig. 2—The heat curves of four parts as the body moves through the oven by conveyor.

tures at all of these points. After the oven was adjusted the body was taken out and moved to a spray booth where the prime coat was applied.

The prime coated body entered the oven after a 3-minute standout and the paint was baked for 15 minutes on a time and temperature cycle, as shown in Fig. 2. A subsequent coat of surfacer was similarly applied and baked for 18 minutes, after which the body was wet sanded.

The first color coated job was painted gloss black, except for the doors on which a pastel green was applied. This coat was processed for 18 minutes. The finish job was judged by all present to be thoroughly baked and to be of superior gloss and appearance.

It should be noted that all materials used in this test were regular production finishes not modified in any way for infrared processing. Subsequent tests were run on various other colors, including Allegheny grey, holiday red and blue to determine if color variation was of importance. It was established that no oven compensations were required for any of the commercially used colors. Little temperature differentials were found among blues, greens, and reds, and the overall uniformity of temperatures between thick and thin sections materially improved . . .

Comparisons of Operating Cost; Space Occupied; Baking Time

After a general endorsement of the results, a preliminary cost survey was worked out by Mr. J. A. Martin of the South Bend plant. Preliminary indications were that the operating costs would compare favorably with the steam and gas locally available. Not the least of the considerations was the space to be occupied by the ovens. The infrared ovens would do the baking in somewhat less than half the time that it could be done with any convection type oven with which we were familiar. The floor space to be saved was needed for other operations and its value was high enough to make the first-cost economics additionally favorable to infrared.

Studebaker, therefore, purchased initially a color oven for truck cabs approximately 110-ft. long, a chassis oven, two final repair truck ovens (22-ft. and 44-ft. long respectively) for prime repair and color repair, and a ceiling mounted wheel oven 58-ft. 8-in. long. An oven for baking parts electrostatically sprayed was installed somewhat later. The first ovens were installed late in 1947. Approximately one week was available for final testing before the plant was scheduled to go into full truck production. [*To page 32*]

UP IN THE AIR ABOUT METAL CLEANING COSTS?

the answer is...

the new BARONET

vapor spray Degreasers

...the only low cost line of smaller degreasers with all the big machine features:

- heavy gauge steel construction.
- interior surfaces protected with baked phenolic coating.
- both coil and water jacket condensers.

Furthermore, each machine is standard with clean solvent spray pump, switches, work rest and lid. All sizes are available in gas, steam or electrically heated models.

3 ft. long machines as low as $397.

BARON industries
Los Angeles

BARON INDUSTRIES 241 W. Ave. 26
Los Angeles 31, California

Please send me literature and prices on Baronet Degreasers.

Name_____
Firm Name_____
Street_____
City_____ State_____

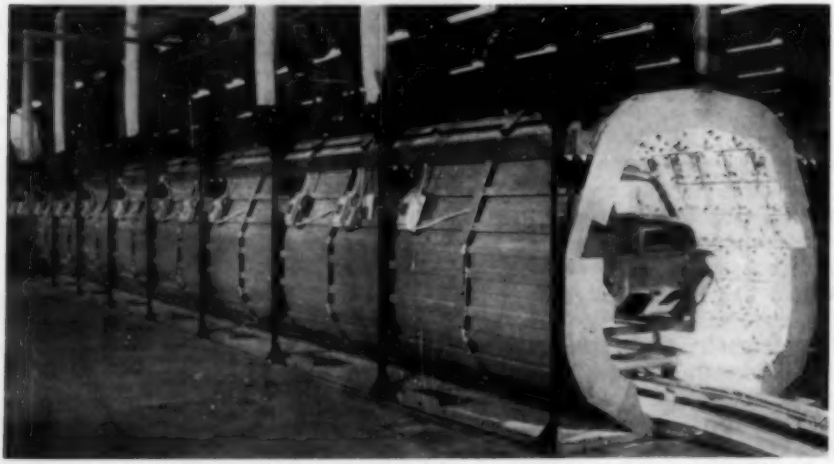
Metal Temperatures Rather Than Air Temperatures

Preliminary testing on the truck cab color oven indicated that the best results were secured with approximately a 5-minute build-up to baking heat, with ten minutes of heat at that temperature. These findings were made by running a sample test cab with thermocouples soldered in place through the oven and trailing long leads back to a recording potentiometer. In this way true metal temperatures could be read and the oven could be adjusted so that all parts of the cab reached the same baking level at the same time.

The fact that it is not necessary to wait for the heavier parts to come up to the same level as the thinner sections accounts for a considerable part of the time saving achieved. After the oven was adjusted, the uniform temperature climb in the holding zone was tested and relamped to maintain these temperatures on all parts of the cab. Approximately double the input of watts per foot of oven were required in the "build-up" zone, as compared to the "hold" zone. After once setting the oven, no further adjustments were necessary for the entire range of colors processed.

Controls Take Care of All Emergency Conveyor Stops

To take care of minor fluctuations of production, a set of controls was installed so that if the conveyor stopped for only a short time the lamps stayed on at normal voltage for 30 seconds. If the delay exceeded that time, a second set of controls cut the lamp voltages in half to permit the oven to continue to operate at a safely lower level for as long as 45 minutes. If the conveyor was not started at the end of that time the oven would cut off completely. [*Continued on page 34*]



The cab and body oven. Notice air filters at base of oven and suction fans on top.

Paint Processing Equipment by Peters-Dalton

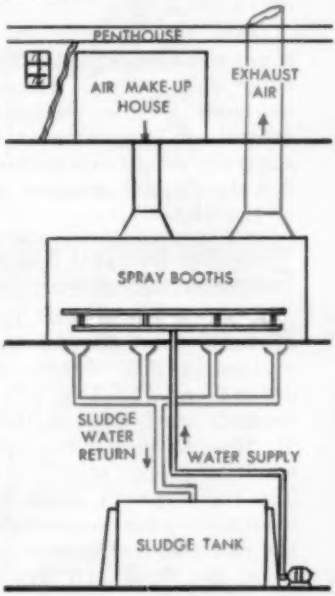
part of the CHRYSLER *Forward* Look

Multi-million dollar expansion program at Chrysler-Jefferson Plant, Detroit, includes the installation of special high production paint process equipment—designed, engineered, fabricated and erected by Peters-Dalton.

Roof level includes exhaust fans and ducts along with fresh air make-up house.

Second floor level contains paint finishing production lines and spray booths.

First floor level contains fresh water pumping system and sludge tanks for paint separation.



To fill an important role in the huge expansion program undertaken at the Chrysler-Detroit Plant, the requirements for a vast paint processing equipment installation were met by Peters-Dalton. This is another case of an outstanding challenge solved by P-D engineers. The equipment had to be designed to fit within the structure being built by Chrysler and to conform to layouts made by their plant engineers. It operates on three levels and provides the special services so necessary for maintaining its part in the highly accelerated production program at Chrysler.

Whether your needs are for an installation comparable to this or for one of a basically simple nature, depend on the more than quarter century of Peters-Dalton engineering experience. Fnd out for yourself—just write, wire or phone.

Representatives in Principal Cities

P-D Peters-Dalton INC.
17916 Eyon Road
DETROIT 12, MICHIGAN

- *Hydro-Whirl Paint Spray Booths*
- *Industrial Washing Equipment*
- *Drying and Baking Ovens*
- *Hydro-Whirl Dust Collecting Systems*

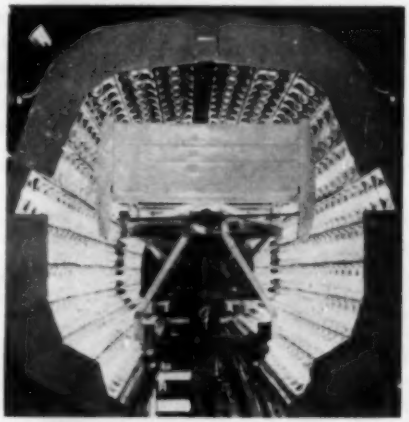
This arrangement allowed cabs in the oven to finish baking without going off color, and the cabs could be removed from the oven if necessary. Or, if production started up again before the end of 45 minutes the controls brought the oven back up to normal lamp load at once, and the standard cycle was again in operation.

Once the lamping in the two zones had been adjusted for a particular baking cycle, changes could be made in the viscosity of the enamel to accommodate varying spraying conditions without affecting the finish baking or the luster of the film.

What We Learned Through Production Experience

Standout Important. The amount of flash time allowed before the painted article enters the oven depends on the type of synthetic enamels used, and on the solvents or diluents used to bring the enamels to proper spraying viscosity. The gap between spray booth and oven allows air to circulate around the cab and, in the case of the cab oven, the flash (air drying) time was about three minutes. Although it might seem to be dangerous to put the cab in the oven so soon after spraying, there is no actual risk of an explosion, even with an open flame, since the oven air is exhausted at a rate sufficient to insure that there will be no concentration of volatiles in any part of the oven.

Luster Improved. If too much solvent is allowed to evaporate before the cab enters the oven, an important advantage of baking with well-designed infrared ovens is lost. As the cab enters the heating zone a complete envelope of evaporated thinner surrounds the body; this helps the flow and leveling of the enamel. The rate of air movement in the oven is enough to



A peek into the finish end of a 95-ft. 4-in. production oven for finishing cabs and bodies at the Studebaker truck plant at South Bend. The time cycle is 15 minutes for parts finished in red, yellow, blue, green, tan. The oven is lamped with 375, 250 and 125-watt lamps.

remove any danger of creating a local concentration of solvents, but not great enough to cause any noticeable turbulence. In an oven utilizing air recirculation, with its much higher air velocities, it is not possible to maintain the envelope of solvents and get the additional leveling of the enamel. The low rate of air flow is one of the reasons why there is so little dirt on enamels baked in an infrared oven. This reduces repair costs and adds to the general appearance of the finished product. [*To page 36*]

HOW TO SAVE MONEY

Relieve warehouse overload.

Combined orders can cut costs.

Reduce paperwork—one shipment, one order, one invoice.

BUYING SOLVENTS AND CHEMICALS

Fast action—one day service.

Products of the nation's leading producers.

***Products of the* SOLVENTS *and* CHEMICALS GROUP**

Aliphatic Petroleum Naphthas
Alcohols and Acetates
Alkanolamines
Aromatic Solvents, Petroleum and Coal Tar
Chlorinated Paraffins
Chlorinated Solvents
Dresinates
Gylcols and Gylcol Ethers
Ketones and Ethers
Oils and Fatty Acids
Plasticizers
Rosin
Stearates
Terpene Solvents
Waxes

IN DRUM, TANK-WAGON, TRANSPORT AND TANK CAR FROM 17 SERVICE LOCATIONS

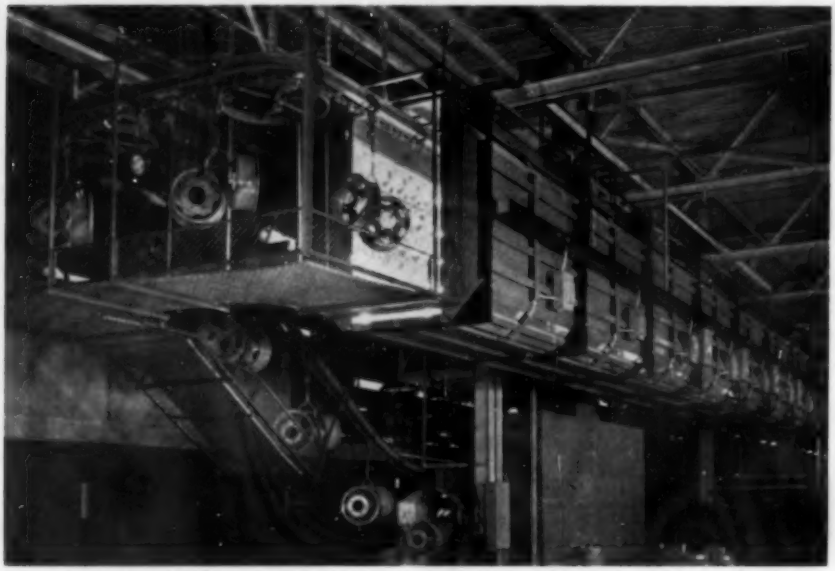
SC Solvents Chemicals Group Member

THE SOLVENTS AND CHEMICALS GROUP

2540 WEST FLOURNOY STREET, CHICAGO 12, ILLINOIS

Bulk Plants and Warehouses

BUFFALO, Bedford 1572
CHICAGO, SEeley 3-0505
CINCINNATI, Elmhurst 1-4700
CLEVELAND, CLearwater 2-1100
DALLAS, Federal 5428
DETROIT, WAlnut 1-6350
FORT WAYNE, ANthony 0213
GRAND RAPIDS, CHerry 5-9111
HOUSTON, ORchard 2-6683
INDIANAPOLIS, MElrose 8-1361
KANSAS CITY, Chestnut 3223
LOUISVILLE, ATwood 5828
MILWAUKEE, GReenfield 6-2630
NEW ORLEANS, TEmple 4666
ST. LOUIS, GArfield 1-3495
TOLEDO, JOrdan 0761
WINDSOR, CLearwater 2-0933



This oven bakes red, green, yellow, blue and tan enamel coats on wheels in 9 minutes.

Additional Oven Installations And Our Conclusions

Early in 1950 Studebaker received a large contract from the Army for military trucks. This made it necessary to expand the facilities of the Chippewa plant considerably and to realign and relocate some of the existing equipment. Studebaker's infrared baking process was approved by the army and over 700-ft. of additional infrared ovens were added.

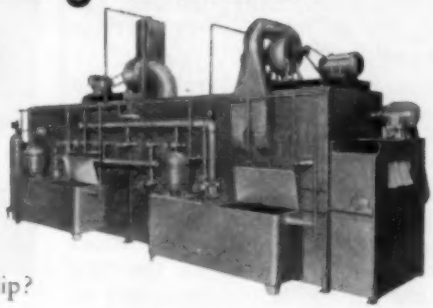
Some of the original ovens were moved to Studebaker plants in other sections of the country, where they are still giving highly satisfactory service. The dismantling, shipping and erection of the relocated ovens was a relatively simple operation; half of the original cab oven, for instance, was shipped to our California plant in Los Angeles and was set up ready for operation in a week's time.

These ovens have now been in continuous and satisfactory operation for over seven years. From our experience, over that period of time, we are able to present the following observations and conclusions:

There has been little variation or depreciation in the performance of the ovens since their installation. The slight loss in efficiency of the lamps over a long period of time does not appreciably affect the baking of the paint film, provided the lamps and the reflectors are kept reasonably clean, especially on

Why Invest in an A-F Cleaning or Processing Machine

NOW?



YOUR costs up . . . competition tougher . . . profits beginning to slip?

Why invest capital funds now in cleaning and processing equipment? Why not wait for a change?

The answer is, "Nothing is so constant as change." You can wait *too* long, you know . . . obsolete equipment may allow your competition to make greater and greater inroads.

OR—you can insure "quality control" and lower costs *now*—with modern A-F Cleaning and Finishing Machines—so that you can compete in today's tougher conditions.

INVESTIGATE! Before you order any cleaning or processing machine—write us. If a "standard" A-F Machine will not do the job, A-F Engineers are specialists in custom-built equipment . . . since 1901.

Every A-F Machine is actually job engineered to lower your costs.

For newest brochure—showing how to select the right machine for the job you have in mind—write today.

YOU CAN SEE
THE SUPERIORITY OF
A-F CONVEYOR ENGINEERING

A-F

A-F ENGINEERED
Cleaning and Finishing Machines
Plant-wide Conveying Systems
Pre-Engineered Conveyors—Roller, Wheel, Belt, Trolley

THE ALVEY-FERGUSON CO., 757 Disney St., CINCINNATI 9, OHIO and Azusa, California

the lower half of the oven. In the upper half, little maintenance is required at any time.

Lamp life has been satisfactory. It is estimated that at least half of the lamps originally installed are still giving satisfactory service after seven years.

Film qualities of durability and adhesion are as good as are obtainable by other methods; luster appears to be somewhat better.

In most instances we have been able to shorten the baking time even more and in no operations have we had to lengthen the time needed. In one or two instances we were able to increase the schedule or add additional parts to the line instead of cutting the baking time further.

The mobility has proved to be an unexpected but nevertheless an important aspect of our equipment.

Ralph E. Pettit Joins Diversey

Mr. Ralph E. Pettit, former Vice-President and Works Manager of the Chicago Thrift Etching Corp., has been named Technical Advisor in the Metal Industries Department of The Diversey Corp. of Chicago. Mr. Pettit is well known throughout the metal working industry as First Vice-President of the Chicago branch of the A.E.S.

In his new position, Mr. Pettit will work closely with the field sales force in solving difficult problems in the selection and application of processing chemicals in the metal industry.

NEWCOMB-DETROIT

PIONEERS IN ENGINEERING, MANUFACTURE AND INSTALLATION OF

INDUSTRIAL OVENS
SPRAY BOOTHS
PARTS WASHERS
DUST COLLECTORS
AIR SYSTEMS

ESTABLISHED 1912

DETROIT DIVISION – GRAND RAPIDS DIVISION – NEWCOMB INDUSTRIES LTD., WINDSOR DIVISION

For Bulletins and Quotations, Wire, Write or Call—

NEWCOMB-DETROIT

5753 Russell St., Detroit 11, Mich.

TR 3-2100

New Sales Personnel at Eclipse

Mr. James L. Whalen has been appointed Sales Manager of Eclipse Air Brush Co., Newark, N. J. After seven years in the New England territory he became top salesman and then transferred to the home office in 1954. At the turn of the year he was made Sales Manager.

Left:
James L. Whalen

Below at left:
Stuart O. Minard

Below at right:
Robert E. Dwyer

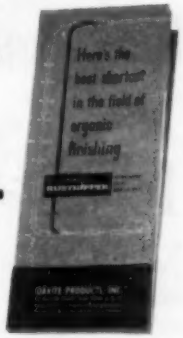
Replacing Mr. Whalen as manager of the New England office is Mr. Stuart O. Minard. Mr. Minard, who attended MIT and Worcester Polytechnic Institute, has had several years experience as Sales Manager for two other companies.

One other selection by Mr. Whalen is Mr. Robert E. Dwyer to take over the Chicago sales office, which has been operating for nearly 25 years. As a life resident of Chicago and former representative of a prominent motor manufacturer, Mr. Dwyer comes to Eclipse well qualified and has already made exceptional progress.

Spray Painting Information

Maintenance painters can find the answers about proper equipment for specific spray painting jobs in a new equipment guide published by the DeVilbiss Co., Toledo, Ohio, manufacturer of spray painting equipment.

DO PAINT STRIPPERS FAIL TO GIVE YOU A CLEAN STEEL SURFACE?



Here's a new kind of stripper that removes paint, pigments, phosphate coatings, rust and oil. It removes them all in one operation. Leaves nothing but bare, clean steel. Eliminates need for pickling and neutralizing.

FREE For illustrated booklet "Here's the best shortcut in the field of organic finishing", write Oakite Products, Inc., 32F Rector St., New York 6, N. Y.

OAKITE
SCIENCE

Technical Service Representatives in Principal Cities of U. S. and Canada

Floating, Flooding, Streaking or Lab. vs Production Spraying

A laboratory chemist has cured floating, flooding & streaking by changing the adjustments in his spray gun, and his spraying, but the spray experts and men in production disagree with him and they explain why in detail.

EDITOR'S NOTE: Recently a laboratory chemist in California prepared and sent in a short article about, "Induced Floating and Flooding", wherein he explained how he had solved "a common and troublesome problem". What he did and how he did it evidently worked—in his laboratory—but his suggestions about spraying were so far at variance with modern production spraying technique that at first we felt inclined to return his article.

On second thought, we sensed the possibility of developing an informative article on this timely subject—with the help of others. Accordingly, we referred copies of his original story to a few acknowledged authorities on spray painting and asked for their comment. (He may want to shoot us for this.) First, let's read Mr. Lab. Chemist's short article about "Induced Floatting or Flooding". He writes as follows:

"This is a very common and troublesome problem to the finishing men in the protective coatings field. Few people realize, however, that as much as 50% or more of this phenomenon is actually induced during the application, especially by spray painting, and is not the fault of the paint itself.

"Floating, flooding and sometimes streaking happen primarily in tinted paints that contain many different colors of various specific gravities and various solubilities in the solvents in the respective systems. However, it is possible, by faulty application, to induce floating even in one color paint systems.

"To help minimize most of this it is necessary to get a dry instead of a wet and heavy coat of paint, as many finishers like to do. This can be done in a number of ways.

1) Reduce paint pressure and increase air pressure.

2) Spray through a partially opened gun.

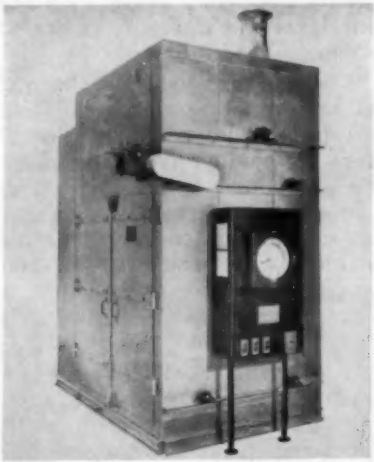
3) Increase distance of spray gun to object that's being painted.

4) Use faster solvents for reducing paint to spraying consistency."

Commenting on the foregoing short article, at our request, Mr.

for

dependable, economical, baking and drying.....



Vertical Continuous Conveyor Baking and Drying Oven

... YOUNG BROTHERS OVENS

You save on production time, you prevent loss of material and you improve the quality of your finish when you use Young Brothers Ovens. They are engineered and built to meet the most exacting requirements and are backed by more than a half century of experience devoted to the development of Batch and Conveyor Ovens for new processes, materials and products.

A wide variety of standard and special Young Brothers Ovens are available to meet your specific needs for baking and drying Enamels, Lacquers, Japans, Varnishes and other finishes. For better finished products in less time, at lower cost, investigate the advantages of Young Brothers Ovens. Our engineers are available for consultation without obligation. Write for Bulletin 4 today.

YB Co.

Estab. 1896

YOUNG BROTHERS COMPANY

1835 Columbus Road Cleveland 13, Ohio

William Beacham, Spray Painting Consultant and Chemist, writes as follows:

"I believe that what Mr. Chemist has said in his article could lead the spray painter astray, but it offers an opinion from the chemist's viewpoint. If the opinions of a production laboratory man and also an authority on spray painting technique were printed at the same time, it would offer an education to plant engineers and maybe penetrate management's thinking.

"I have witnessed this phenomenon in several plants—on both small and on large production lines. In one large plant, I noticed that where material and air pressures were held constant (I might say they used much higher air pressure than I would recommend) a decided separation of color appeared on some doors and parts of the bodies.

"A production sprayer is handling the gun automatically day in and day out. His material pressure is set to deliver so many ounces of material per minute so that he obtains the required film thickness in one stroke of the gun.

Reduced Paint Pressure Calls for More Strokes

"Now to question Mr. Chemist's Solution No. 1, are you, by reducing paint pressure, going to force that operator to get his required film thickness in two strokes of the gun instead of one, thereby making him work twice as hard, or cut production in half? By increasing the air pressure, the paint particles will lose more of their solvent in their travel from the nozzle through the free air to the object being sprayed; and they will be too dry at the time they strike the work to adhere to the surface, consequently they will bounce off, creating more and more overspray thereby reducing adhesion and wasting paint.

Partly-Opened-Gun Spray Produces More Problems

"Solution No. 2 will be the same as reducing paint pressure. The only difference is, if the operator triggers the gun (partially opens it) each stroke of the gun will result in different film thicknesses because the operator cannot possibly judge how far to pull back the trigger for each stroke. If he regulates the pull on the trigger by turning down the needle control at the back of the gun, he is starving the nozzle and will separate extenders which are trying to flow through the two small passages between the needle and nozzle seat. This undoubtedly will show color separation.

Increasing the Spray Distance; Poor Adhesion; Dusty Finish

"Solution No. 3. Increasing the distance of the spray gun from the work will again increase the loss of solvents in the travel of the atomized paint particles. This will result in poor adhesion, and a dusty finish which will require polishing. Furthermore, you will have the metallics actually changing the color because the colored resins are too dry to float to the surface and offer that degree of richness which metalescent finishes were formulated to produce.

"Solution No. 4. Following this train of thought, the faster the

PRODUCED BY UNITED CHROMIUM . . .

Plastisol

gives sheet-like coating by spraying

HERE'S A TANK getting heavy-duty protection which has unusual advantages and costs less than customary sheet materials used. It's being sprayed with Unichrome Coating 5300.

More than 100 Unichrome Plastisols offer you truly unique finishing opportunities . . . finishes with great resistance to corrosion and wear . . . with rich, satiny luster . . . with chip-proof, shock- and sound-cushioning resiliency . . . with pore-free build-up, thick or thin as desired.

Unichrome Plastisols are available for applying almost any way you want, even electrostatic spraying. Learn more about how plastisols can satisfy your requirements. Send for Bulletin VP-1.

Tank for use with chemical solutions being sprayed with Unichrome Coating 5300. Photo courtesy Kaybar, Inc., Hazel Park, Michigan.

UNICHROME Trade Mark

COATINGS FOR METALS

. . . unique coatings to meet unusual requirements

UNITED CHROMIUM DIVISION
METAL & THERMIT CORPORATION

100 East 42nd Street, New York 17, N. Y.
Detroit 20, Mich. • Waterbury 20, Conn.
East Chicago, Ind. • El Segundo, Calif.
In Canada: United Chromium Limited, Toronto 1, Ont.

solvent evaporates, the less time the pigments will have to separate before the coating surface dries. Who is going to decide what is a faster solvent? Not the purchasing agent; he doesn't understand finishing problems and neither does the plant engineer. They are depending upon the paint supplier and if he can't supply the finish they want, they are going to buy elsewhere.

Back to Chemist; Facts About Spraying

"We return to the chemist. If the chemist understands production problems and also realizes that the spray gun has been designed to flow a given amount of liquid per minute into the free air; and that atomizing nozzles are designed by correctly balancing the compressed air flowing through the jets to finely atomize the stream of liquid and push it in a given direction, he will concentrate on the paint and not the spray gun.

"I got the extension hose installed on the new spray gun; now what do you want painted?"

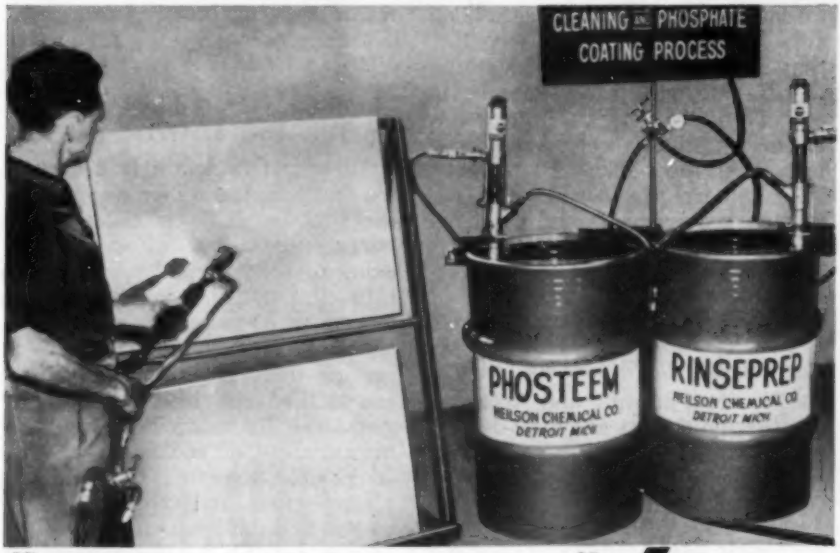
What Really Causes "Separation"; "Orange Peel"

"Separation is caused from the solvents or blendings of solvents not being compatible with the resins and/or pigments. I do not want to discuss formulating of paints. It would lead into too many arguments, but I'd like to say this much: 85% of orange peel and several other defects can be caused by the incorrect blending of solvents and diluents to suit the locality in which the material is to be used.

Solvent Blending to Suit Customers' Conditions

"The correct solvent blending in the paint manufacturer's laboratory, where the temperature is constant, may cause separation in the plant where the paint is being used. A change of temperature, or different temperatures of paint and solvent at the time of mixing, may cause a true solvent to become a diluent, or a diluent (thickening agent) to become a true solvent. In other words, the solvents must be blended to suit the customer's plant conditions in the locality where the paint is to be used. We must not expect our customers to have the same conditions we have in our laboratory.

"Also, telling the customer to use a faster solvent or slower solvent is not explaining the reason. Do you want him to go out and purchase a cheap solvent loaded with sulphur



"Phosteem"

U. S. Patents Pending

CLEANING AND PHOSPHATIZING PROCESS USING STEAM GUNS....

• The only low-cost production method of treating *Cabinets, Trucks, Road and Farm Machinery, Large, Bulky Equipment,* etc. while providing top corrosion resistance and assuring paint durability. The equipment cost is nominal and within reach of even the smallest manufacturer.

FOR USE WITH FACTORY STEAM OR PORTABLE STEAM GENERATOR

WRITE FOR BROCHURE 54-122

NEILSON CHEMICAL CO.

MANUFACTURERS OF METALPREP

2682 Tecumseh Road
Windsor, Ontario

6562 Benson St., Detroit 7, Mich.

3411 Union Pacific Ave.
Los Angeles 23, Calif.

to cause you more headaches? He doesn't know much about solvents; they are just something with which to thin the paint, as far as he is concerned. To you it is a poor finish or a good finish (bankruptcy or money in the bank). Blend your solvents correctly to suit your customer's requirements and don't expect your customer to change his methods. He won't."

Mr. E. F. Frey, Manager of the Industrial Sales for The DeVilbiss Co., rewrote the article as follows:

"Floating, flooding and streaking are three different finishing defects all of which can be the result of improper technique in application.

Floating or Dappling; Its Cause and Remedy

"Floating of pigments in usual metallic paints, often referred to as "dappling", is caused by improper distribution of the paint film. These types of materials may be applied by spraying—in the conventional way for all coatings except the final coat. On this last coat it is recommended that the distance the spray gun is held from the work be increased from the conventional 6 to 8-in. to 12 to 18-in. Should only a single coat be required, then the farther spray distance (from the work) should be used.

"In colors other than metallics, the clouding effect, if pronounced, is due to insufficient material having been supplied. Generally, in all but metallics, any differentiation in color can hardly be detected by the eye, but it may be detected under a microscope in the laboratory. It could show more or less later. When it is that delicate or "close" it usually does not cause production difficulties.

Flooding is Caused by Putting On Too Much Material

"Flooding is definitely a case of too much material being applied to the surface. This is caused by a number of things. For example, using too high a fluid pressure, too thin a material, too slow a gun movement or too slow a thinner.

"The tendency today is to heat coating materials just before they are applied and thus reduce their viscosity. By using heat for thinning instead of adding thinners it is possible to reduce the fluid and air pressures and thus reduce the waste or loss from overspray. It also is possible to use higher viscosity cold material and then, by heat, rather than by solvents, reduce the viscosity and thus apply a film that contains more solids.

Practical Pointers on Correct Spraying

"In spraying you must guard against applying the materials in a dry form, as this would give a dull lifeless coating or even a frosty coating. There must be enough material applied to give a full wet coating to assure proper covering, sheen and flowout. . . .

"It is recommended that the flow of material from a spray gun be determined by the beaker test and then setting up this determined flow rate as a standard. To measure the fluid flow from a spray gun, shut off atomizing air and flow into a beaker for a period of time, say a minute. Atomizing air pres-

Photo courtesy of
Bissell Carpet Sweeper Co.
Grand Rapids, Mich.

Randolph Helps

this nationally-known quality product sweep to new sales gains with these long-lasting finishes in a winning array of colors

RANDOLPH

BAKING SG ENAMEL
METALLIC SG ENAMEL
SCREENING ENAMEL

When you present a fine product to the public with an eye-catching, perfectly-groomed finish, you're on your way to success. You've got that combination here—the famous BISSELL carpet sweeper with a finish by Randolph. These enamels range the spectrum in a glamorous variety of colors! This firm is only one of the many nationally-known companies that depend on us for surface coatings with the look and performance of quality.

If you're interested in new colors
for your product or you have a finishing problem
—write today for complete information.

Randolph
PRODUCTS COMPANY
CARLSTADT, NEW JERSEY

LACQUERS • ENAMELS • DOPES • THINNERS

sure should be held down to the lowest point at which it is possible to produce desired coating results.

The spray gun fluid adjustment is generally left wide open for greatest ease in operation of any spray gun. If fluid control is required, then this should be obtained by using the proper fluid orifice in the gun head, and by control of fluid pressure except in cases of occasional touch-up or some other delicate operation where the fluid control on the gun would be a convenience.

"In most manual spraying the distance of gun from work should be maintained at 6 to 8-in.—one exception being when you spray metallic coatings. The farther the gun is held from the surface being sprayed, the drier the film, the more solvent is wasted and the more fog results.

"You've heard about sap stains? Well, I just stained a sap!"

"Solvents do play a part in the paint mix. The use of solvents that evaporate too fast would mean that more solvent is being blown out between the gun and surface being coated. On the other hand, the use of solvents that evaporate too slowly would mean that more solvent remains in the film to cause afterflow in the paint or lacquer film. Some solvents should be diluents and leave the mix, while others should be 'long' and cause the desired flowout. Proper balance is important."

Mr. Horace Chester Gives Quality Control Angle

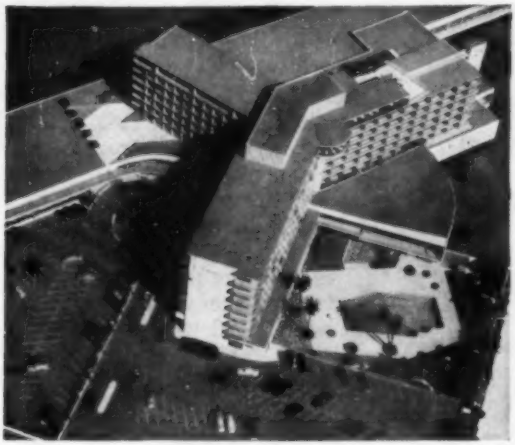
Mr. Horace Chester, in charge of Quality Control for a large firm that operates several furniture factories, writes his comment as follows:

"Mr. Chemist doesn't make himself clear by the terms, 'floating, flooding and streaking'. However, I presume that he is referring to a problem the finisher sometimes has with pigments and dyes floating on top of the paint. This problem is nearly always caused by poor formulation of paints. For instance:

"1) The pigments may be too coarse; 2) the solvents and the pigments may not be compatible; 3) the specific gravity of the vehicle may be a little too heavy to allow the pigments to remain soluble.

"There are several other things that will cause the pigments and dyes in paints, lacquer and oil enamels to float, both in the container and on the finished surface.

"Mr. Chemist states that floating, flooding and streaking are induced by improper application of the ma-

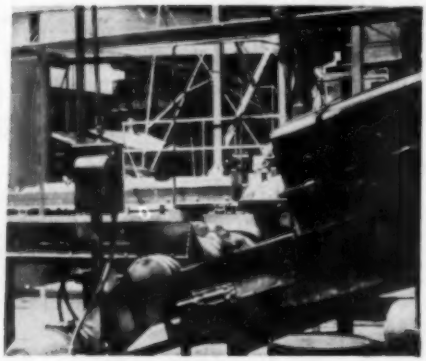


MULTICOLOR APPEAL

Ever-increasing acceptance of multicolor lacquers is typified by the new Beverly-Hilton Hotel in Beverly Hills, Calif. More than 1,000,000 square feet of exterior and interior surfaces of all types have been decorated with this single spray method.

PRODUCTION AID

Hot lacquering of wooden beverage boxes keeps the production line moving without delays for drying. Lacquer, the fastest drying of all finishes, is ideal for modern manufacturing systems.



ALKALI-RESISTANT

Chemically inert, Parlon® (chlorinated rubber) makes possible aluminum paints immune to the attacks of alkalis and salts. Having good leafing characteristics, they provide bright, chemical-resistant finishes for equipment such as the citrus fruit conveyor shown above.

For further technical or marketing information on these or any other development in lacquer-type coatings made from nitrocellulose, ethyl cellulose, cellulose acetate, or Parlon® (chlorinated rubber), write to Hercules.

Cellulose Products Department
HERCULES POWDER COMPANY
INCORPORATED
928 Market St., Wilmington 99, Del.

CLSS-4

terials. Flooding and streaking can be caused by using improper air pressures, fluid pressures, etc., but I have never experienced floating from improper application of materials—except from poor agitation or no agitation at all.

Formulate Material Correctly; Stir Before Applying

"My experience has been that if the materials are properly formulated by the finishing material manufacturer, and then well agitated at the time of their application, then there will be no floating.

"In regard to correcting flooding and streaking, I agree with Mr. Chemist that too much fluid pressure, or too low air pressure for the fluid pressure used, will cause the spray operator to get too much material on and thus flood the surface, causing heavy edges and sags.

"The air pressure and fluid pressure must be balanced. This can always be determined by the viscosity of the material, the size of the surface to be sprayed and the speed with which the conveyor is traveling (if the work moves along by conveyor) or the number of units or square feet to be covered.

"Mr. Chemist says that to eliminate some of the flooding, floating and streaking, the operator could spray with a partially opened gun. The amount of fluid is usually controlled by the fluid regulator on the pressure tank or fluid pump, rather than with the spray gun fluid adjustment. However, on small operations, where gravity feed is used for spraying, the adjustment of material must be made at the spray gun. This will eliminate flooding.

Distance From Spray Gun; High Air Pressure; Solvents

"In regard to increasing the distance of spray gun to the surface that's being painted, this will not correct any of the trouble with flooding, streaking, etc. — that is, provided the gun is being held at the proper distance now (6 to 8-in. on lacquers; 8 to 12-in. on synthetics). If the gun is held too far away from the work, a dry coat that will not flow out will be the result.

"Too high an air pressure will cause a dry coat too. It will also waste a lot of finishing material. Either of the above can cause streaking.

"Mr. Chemist mentions faster solvents as the remedy for floating, flooding and streaking. I cannot see where this would help to eliminate floating and flooding, but I can see where it would help to induce streaking because often a fast solvent evaporates so rapidly that it won't allow the material to flow out properly before it sets." [END]

More Firms Franchised to Apply Sprayable Plastisol

Eight additional metal finishing firms have been appointed franchised applicators of Unichrome 5300, a sprayable plastisol made by United Chromium Division of Metal & Thermit Corp.

Wide experience in applying organic coatings to metals, rigid control standards, adequate application and baking facilities and a reputation for high quality work are requisites for qualification as an applicator.

Unichrome 5300 was developed to permit spray application of vinyl plastisol films in a single dry seamless coat in thicknesses up to 30 mil without sagging.

For further information, write United Chromium Division, Metal & Thermit Corp., 100 E. 42nd St., New York 17, N.Y.

CLINCO

PIONEERING QUALITY INDUSTRIAL FINISHES SINCE 1928

FLO-COATING...

- *SAVES PAINT*
  Less waste
- *SAVES LABOR*
  Man-hour savings
- *CLEANER FINISHING*
  Dirt can't get in tank
- *BETTER COVERAGE*
  More units per gallon

Dipping has been improved upon. Volume production that is dipped can be done better and cheaper when Flo-Coating is adopted.

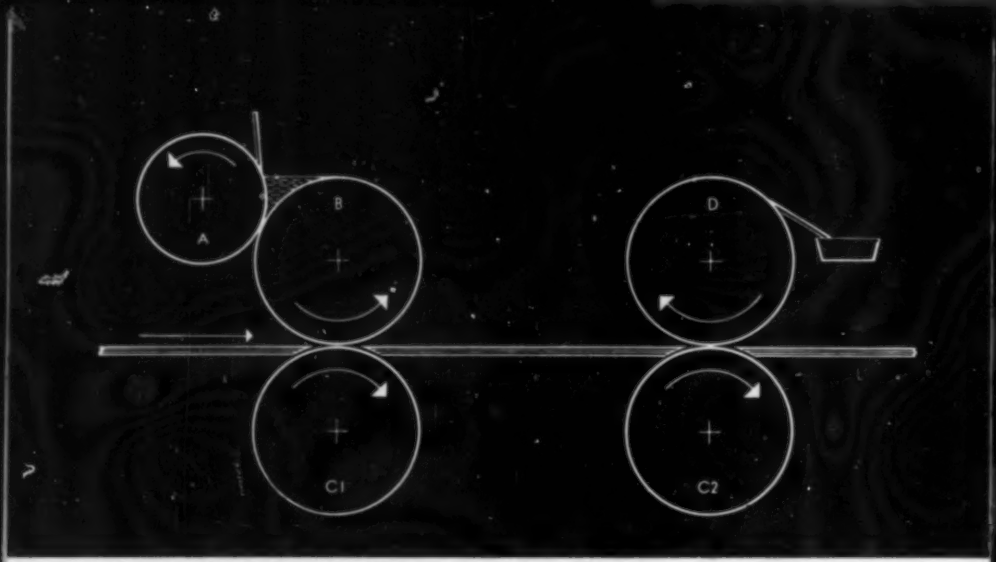
The benefits to be derived can be fully realized only when your supplier of enamel is thoroughly experienced in this field.

Your inquiries are invited.

Customer Service is Our No. 1 Concern

THE CLINTON COMPANY

1210 ELSTON AVE. • CHICAGO 22, ILL.



Side view showing the relative position of rollers in reverse roller coating machine. C1 and C2 are feed rollers. Roller A is a chrome plated "metering" roll; it is adjustable to let just so much filler material cling to the steel applicator roll B which is grooved. Roller D is a chrome plated doctor roll that presses down against the grooved, coated panels and removes the excess filler coating material.

Reverse Roller Coating

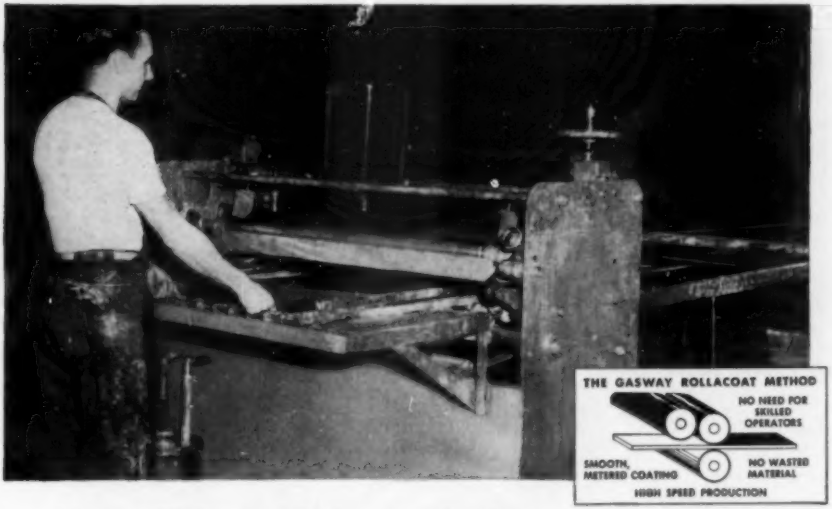
By P. C. BARDIN, Associate Editor

THE PRINCIPLES of roller coating have been extended to include reverse roller coating which is used for smoothing and filling surface imperfections in wood, hardboard and various kinds of composition board.

While the flat surfaces of fiber board, plywood and various kinds of composition board may appear to be perfectly smooth and flat, when a coat of enamel or a clear lacquer is applied various imperfections, such as high and low areas, show up greatly magnified. As a result the coated stock may be unsuitable for wall paneling, door panels, tile board, or for use in TV cabinets, furniture, etc.

Now these slightly irregular surfaces can be smoothed, leveled and filled quite effectively by *reverse roller coating*. If you will refer to the accompanying drawing you will note that the machine has five rollers. A chrome plated steel roller *A* is a "metering" or "doctor roller" with a doctor blade at the upper forward arc of the roller. The heavy bodied filling material is carried between this doctor roller and the steel applicator roll.

The face of the applicator roller is grooved—has a series of identi-



More efficient painting method steps up production and gives 98% enamel coverage for Scioto Sign Company

WITH its Gasway Model 32B Rollacoater, Scioto Sign Company of Kenton, Ohio, reports higher production and an improved paint job due to Gasway's *automatically metered finish which deposits 98% of paint solids directly on the material.* No skilled operators are required to get a uniform film thickness and this Rollacoater handles a range of steel and aluminum panels of equal thickness from 32 square inches to 32 square feet, *without any machine adjustments!*

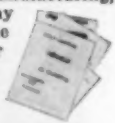
ADVANTAGES OVER OTHER METHODS—
The Gasway Rollacoater is a complete coating tool all by itself. No elaborate spray booths or compressors are needed. No paint is lost. Gasway's 98% coverage means you can coat 800 square feet of surface with a one mil film, for every gallon of paint containing 50% solids. No other method can compare.

FOR COATING MANY MATERIALS
No matter what kind of material, there's a Gasway Rollacoater that will coat it . . . on one or both sides. Aluminum, steel, plywood, fibre-board, cardboard, leather, wood, asbestos and other semi-rigid materials are being coated successfully in thicknesses from 35 gauge to 3 inches.

VARIETY OF COATINGS APPLIED
Lacquers, enamels, varnishes, drawing compounds, adhesives, sealers, stains, oils, compounds of many sorts can be applied. For instance, a protective sealer is now being applied to plywood to protect it in storage.

WIDE APPLICATION IN INDUSTRY
Manufacturers of awnings, venetian blinds, trailers, siding, pre-fab, displays, signs, furniture, blinds, bumpers, air conditioners, roofing, baseboard heating, shower stalls, automotive panels, shelving and other goods are getting lower costs, better products. *And don't forget, panels or strip don't have to remain flat after coating, either. Roll forming or drawing after painting is the newest wrinkle in cost-cutting manufacture. It'll pay you to investigate.*

INFORMATION AVAILABLE
Gasway will send you full details on rollacoating at no obligation. Whether you have tremendous production rates or intermittent manufacturing, there's a Gasway coater to handle the job. Send for the whole story. It'll pay you to know the facts.



Gasway CORPORATION

GASWAY CORPORATION
6439 NORTH RAVENSWOOD AVE., CHICAGO 26, ILLINOIS

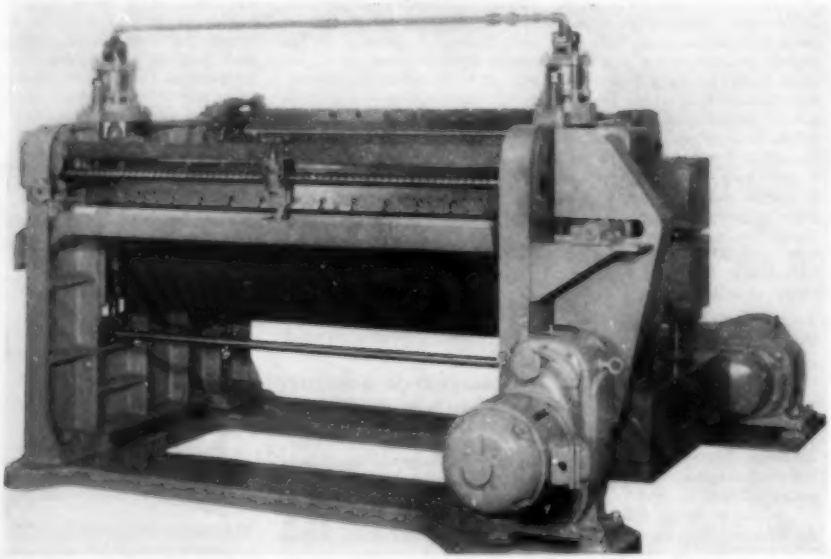
LOOK TO GASWAY FOR EFFICIENT, HIGH PRODUCTION COATING OF STRIP, SHEET OR PANELS

cal equally spaced parallel grooves around its circumference. The depth of the grooves is uniform on each roller, of course, but on different rollers they may range in depth from 1/32-in. to 1/16-in., depending upon the type and texture of the material to be smoothed and filled. Pressure between the doctor roller *A* and applicator roll *B* determines or regulates the amount of filling material that will squeeze through and be transferred to the surface of panels feeding through the machine by power.

The machine has two rubber faced feed rollers which are marked *C1* and *C2* in the drawing. Applicator roll *B* not only applies the filling material but, due to the pressure exerted by the first feed roller *C1*, it imprints a series of shallow corrugations on the surface.

The chrome plated steel roller *D* is in reality a "doctor roller" insofar as the stock is concerned. A doctor blade bears against its upper forward arc and scrapes into a pan all excess filling material removed from the surface of the stock. Pressure between this doctor roller *D* and the second feed roller *C2* smooths, flattens and levels the surface of the filled stock.

Revolving in reverse direction from the other rollers, the roller *D* removes every trace of the shallow corrugations put in by roller *B*, wipes the high areas clean and leaves the low areas properly filled (regardless of how shallow the low areas may be) to produce a perfectly smooth, flat leveled surface ready for paint, varnish, lacquer or enamel. [END]



Out-feed end of a 48-in. reverse coater for any type of sheet material, from thinnest to 2-in.

STRIPPING ENAMEL . . .

SAVING TIME

Enthonics AT WORK

25 seconds from immersion to completed stripping!

That's the fast, dramatic story of ENTHONE Enamel Stripper S-18 in action — another example of *Enthonics* at work.

Enthone Enamel Stripper S-18 is the modern organic stripper developed for removing the newest organic finishes such as Epon or Epoxy coatings and many synthetic enamels from copper, copper alloys, steel and aluminum.

For the right strippers to solve your organic stripping problems fill out a questionnaire we'll send at your request; return it with typical samples of your work. Enthonics will find the answer . . . without obligation!

And ask for your copy of the "Enthone Check List" of literature covering more than 60 products and processes developed for modern electroplating and metal finishing.

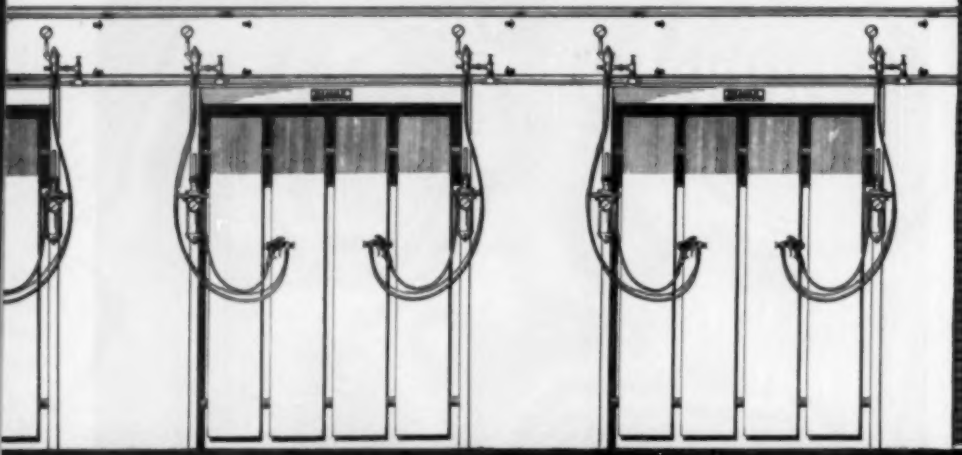
ENTHONE INCORPORATED

442 Elm Street, New Haven 11, Connecticut

Representatives and Stock Points

Binghamton, N.Y.-Chicago-Cleveland-Dallas-Los Angeles.

Pump paint through a mile of pipe...



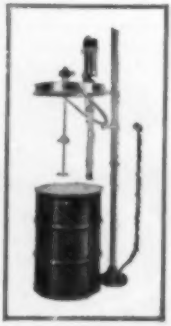
Binks new air-operated material handling pumps open the way to paint circulating systems for every size plant

In a system of this kind, paint is circulated under pressure past each spray station and back to the drum. Binks new material handling pumps are ideal for this purpose. They can force paints of average spraying viscosity through a mile of suitable piping, *direct from the original drum* or from mixing tanks.

Now you can centralize all material handling, paint mixing, and viscosity control in one spot, with these major advantages: Color matching of component parts is easy. No time is required to transport paints to the spray stations or to clean and fill pressure tanks. Spillage and paint contamination are eliminated.

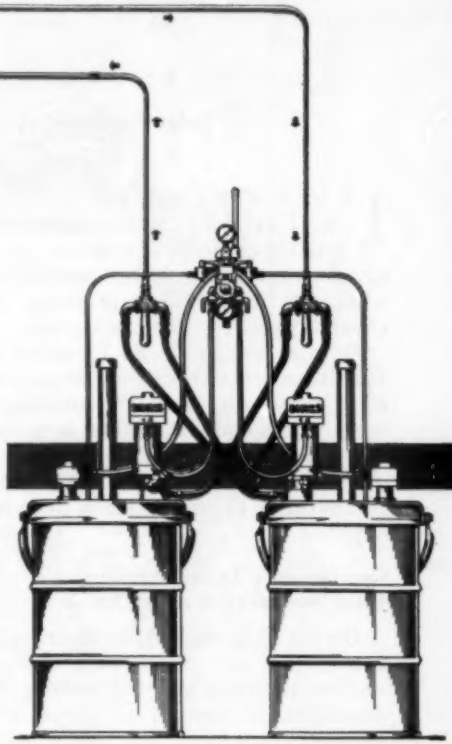
The above diagram shows a two-pump-per-color system. One pump supplies paint to the spray guns while the other is raised to allow replacement of the empty drum...or is agitating the paint prior to pumping. A valve switches the flow from one pump to the other. Not a moment's production is lost.

Binks air-operated pump elevator speeds up drum changing



This new Model 41-9000 air-operated pump elevator pays for itself many times over in the time and labor it saves. It quickly lifts the entire pump assembly clear of a 55-gallon drum and holds it there while drums are changed.

...supply any number of spray guns



Here are some of the new features which make Binks pumps your best buy:

Power-plus: These new pumps will feed paint to any number of spray guns.

Delivers more: Pumps paint on both up and down stroke. Have longer stroke for greater volume.

Low maintenance: Ruggedly built to stand up under hard, continuous operation. Dust and dirt can't enter the new Auto-Cycle air valve. Fluids cannot work up into the motor. No lubrication required.

Uses less air: Large ports minimize back pressure. Precision manufacture reduces friction.

Send today for your copy of Binks Bulletin 701 which describes the many advantages and economies of a paint circulating system using Binks Material Handling Pumps. Binks engineers will be glad to help you select and install the right equipment. Write to the address below:

249-55

Binks

EVERYTHING FOR SPRAY PAINTING

GUNS

SPRAY BOOTHS

FREE INSTRUCTION

Binks Manufacturing Company
3116-40 Carroll Ave., Chicago 12, Illinois

REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

Where Small Shops Can Save

BY JAMES J. MORRISON

Sales Representative, H. Behlen & Brother

A sales representative who calls on the finishing shops tells what's wrong with a few of them —why their costs are so high, why their "business isn't good", and suggests how to remedy it.

IT IS A STRANGE and surprising fact that the managers of finishing shops will argue and haggle over the price of materials while the waste in their shops is considerable and very apparent.

Only a few days ago I visited a furniture store that has a finishing shop in which necessary touch-up work and some refinishing is done. The owner continually complains about prices but he does very little if anything to conserve his present supplies.

Confusion; Indifference; Carelessness; Wastefulness

On his shop shelves, in disorderly array, you see many varieties of aniline powders and dry colors. A considerable number of these are in open containers, the tops apparently missing or unused for months. Dust and moisture settles in these unprotected cans. Some are slightly contaminated by other colors which perhaps have found their way in via a dirty touch-up brush. Obviously part of the contents of these containers must eventually be thrown out as being hopelessly spoiled. Also, it is not unusual to find one or more items duplicated and partly used. Unfortunately this is typical of many such places.

Besides dry powders being needlessly wasted there are numerous other items such as brushes which, because of ill-use or carelessness, are short-lived and never serve to the utmost of their capabilities. And too, there are the empty cans, the almost empty cans, and the newly received full cans of materials — all in such disorder that there is bound to be a loss of time when anyone begins to look for something.

Sad to relate, but in many finishing shops the expression, "A place for everything and everything in its place", is much abused and too often forgotten entirely.

Controlled Inventory and Everything Shipshape

To control inventory and to use on-hand-stock to the limit of human ability is always sound economics. Too often some people complain that their business is poor, while others complain they are spending too much money for materials and supplies. Tie these two complaints together and they add up to reduced

"He's just the man we need to organize an inventory control to save us time and money. Says he has some good letters of reference too . . . if he can find them."

income. This reduction might not be so great, and possibly it might not exist at all, if real efforts were continually directed toward controlled spending and having less wastage of time, materials and labor.

Inefficient inventory control often causes unnecessary purchases. If readers of this article will take the time and effort to check their supplies on hand with their purchases, they are likely to find where they have bought materials unnecessarily at one time or another. Besides the surplus material, consider the extra bookkeeping and other clerical work and labor such purchases entail.

How Disorder and Carelessness Hikes up Labor Cost

Lastly, but probably most important, when the cost of present day labor is considered, think of all the time some expensive hired help

wastes looking for the right color powder, or the proper thinner, or any of the innumerable items required to touch up or finish an article—and all because of untidy, careless stockkeeping. Obviously the keeping of a clean orderly shop and a well controlled inventory can be the means of reducing expenses considerably.

Manufacturers of finishing materials make a tremendous variety of stains, lacquers, enamels and other items which, when properly bought and cared for, greatly reduce the problems and costs of finishing shops and factory finishing departments. Now, don't lose the advantage thus offered. Make the most of them by buying and using the required materials sensibly and economically.

". . . . and this gallon cost us $100! Original cost, $5. Half was wasted, making it cost us $10.00 per gallon. Ten different times 3-man-hours were lost looking for it, that's $90. Total cost, $100 per gallon!"

Customers' Wastefulness Doesn't Make Supplier so Happy

Suppliers of finishing material and their sales representatives don't want to see goods wasted. They would much rather know that their materials are being used to the greatest advantage and are making profits for their customers. That is what makes happy satisfied customers for them and, most of all, it is good business practice for everyone concerned.

From a strictly economic viewpoint, finishing materials are wealth-using goods. Inasmuch as they possess utilitly but are relatively scarce, they must be obtained with some effort and payment of money, therefore how these goods are cared for and used determines their real cost. As an example, and to put it simply, consider the purchase of a 25-cent loaf of bread. If the entire loaf is consumed its full value has been entirely utilized, but if part of the loaf is wasted then the cost of the bread rises. In other words a full loaf of bread originally cost 25 cents, but if one half of it is wasted then the real cost to the consumer becomes 25 cents for only one half a loaf of bread, thus the cost is doubled.

This same reasoning can be applied to other goods, including finishing materials; it illustrates how real costs can mount and how real income can drop proportionately in the finishing room as well as elsewhere.

To produce any wealth that will give income involves costs, and these costs affect income. Naturally it follows that most substantial

KOCH BUILDS:

- BAKING OVENS
- SPRAY BOOTHS
- METAL WASHING EQUIPMENT
- COMPLETE FINISHING SYSTEMS FOR BOTH WOOD AND METAL
- AIR MAKEUP SYSTEMS

"If you hand spray it or dip it, you can flow-coat it better" with material savings of 50% and the elimination of indirect labor. These advantages can be yours now through "Flow-Coating by KOCH"!

Consult KOCH finishing experts and learn how profitably flow-coating can be adapted to your product and your present finishing set-up. The entire system — from layout through installation — is handled by KOCH on a single responsibility contract that assures peak performance at minimum cost. PHONE, WIRE OR WRITE TODAY!

WRITE FOR BULLETIN 8F-J7!

GEORGE KOCH SONS, INC.
EVANSVILLE, INDIANA

"Jenkins won the efficiency award. Five times this month—with the whole shop looking for a certain can of paint for three hours—Jenkins found it!"

efforts directed toward reducing the costs pay dividends. A well managed finish room and a properly cared for inventory assuredly are efforts in this direction. Let's clean up and straighten up that finishing shop—and then keep it that way. It pays! Try it and see!

Pelron Corp. in Production on Resins and "Foam" Materials

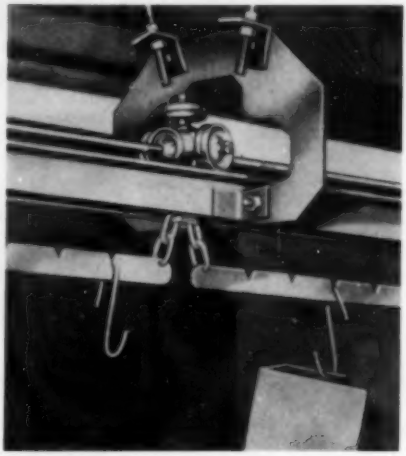
Pelron Corp., 7847 W. 47th St., Lyons, Illinois, announces completion of manufacturing facilities for the production of polyurethane resins and foam materials. The firm has been doing research and development work on these foam resins for more than two years and is now in production on chemicals that will produce both rigid and resilient foams.

The rigid foams are used for insulating and light-weight structural material.

The resilient or "rubber-like" foams have great possibilities as a replacement for foam rubber. . . .

Conveyor Makes Short Radius Turns

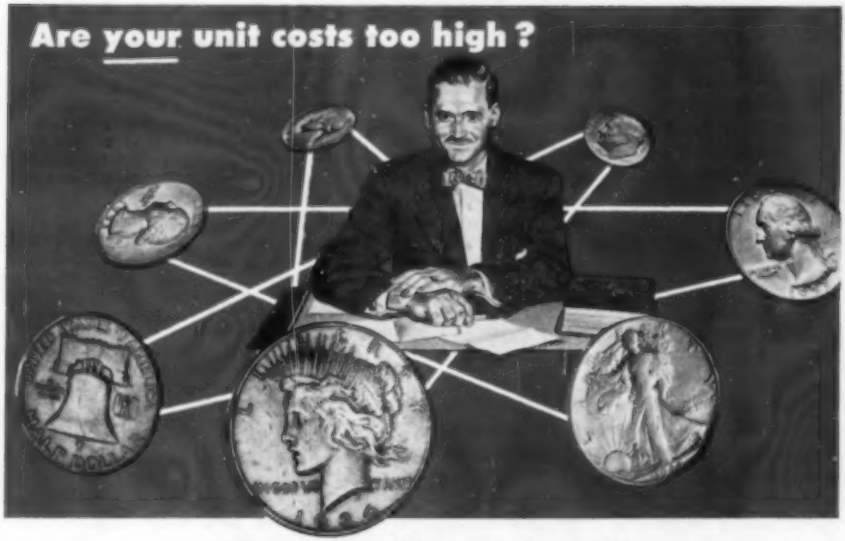
SHARP DIPS and short turns resembling a miniature roller-coaster are an unusual feature of a conveyor recently installed for the D. L. Auld Co., Columbus, Ohio, makers of metal emblems, name plates and similar parts.



Typical ball and socket joint between rods.

Without traction wheels, sprockets or other cornering mechanisms, this new conveyor provides both horizontal and vertical turns on a radius of only 12-in. Short vertical turns get parts, suspended on special hangers to an over-all depth up to 34-in., in and out of a series of dip tanks only 6-ft. long. Short horizontal turns avoid over-sized loops where parts shuttle through cleaning, drying, and baking ovens.

This simplified turning action is made possible by the conveyor's steel-rod connectors, which replace the usual chain or cable linkage between trolley units. The rods pivot freely at both ends, by means of specially



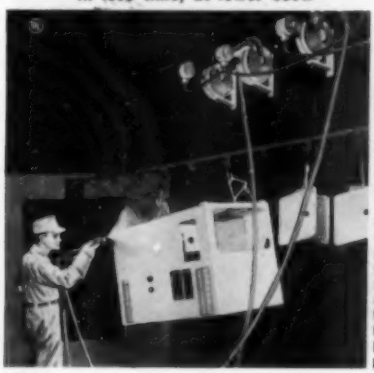
cut production costs with

SPEE-FLO

HOT SPRAY HEATERS

Let us prove it . . . superior finish, in less time, at lower cost.

ASK FOR AN ON-THE-JOB DEMONSTRATION



Don't Delay – Mail Today!

THE SPEE-FLO CO., 720 POLK, HOUSTON, TEXAS

Please send me information on your line of hot spray heaters best suited to our work. (Type of products being finished)_____
Application is conveyorized____ turntable____ mobile____ other (check one). Average volume of material per gun per hour_____
Please have representative call_____
Name_____
Company_____
Address_____
City_____ State_____

9274

hardened "ball - and - socket" joints. The "ball" element is secured to the ends of the connector rods; the sockets are openings in the ends of the trolley housings. Trolley units consist of roller-skate wheels mounted on separate axles spaced evenly around a cylindrical center housing. They ride on angle-iron tracks suspended by C-shaped steel plates. Two tracks suffice for all straight horizontal travel, but auxilary tracks are mounted above the wheels at turns. Trolleys are located at 12-in. intervals in this installation, but they can be positioned closer or farther apart, to fit any need.

The track and supports bolt together easily, which simplifyies conveyor installation or relocation.

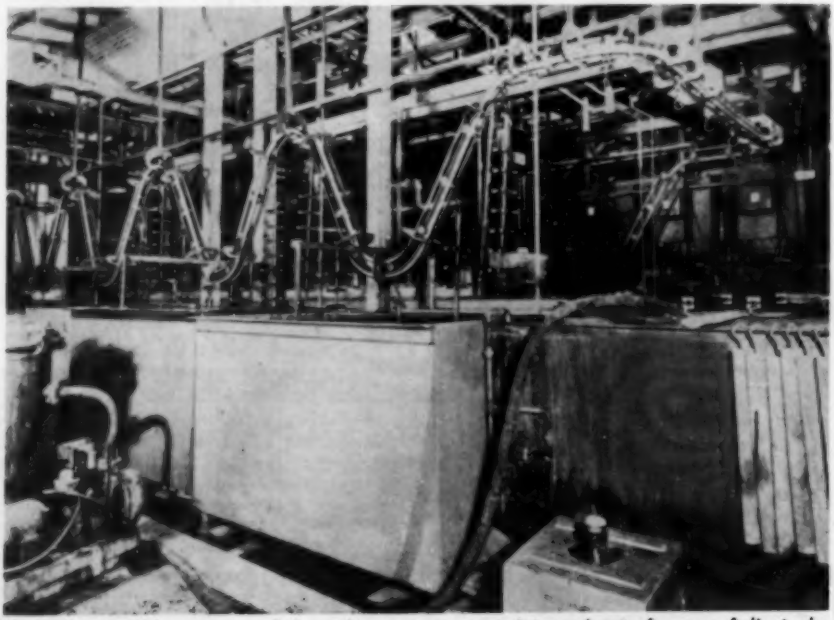
Story and picture supplied by Wheeler, Kight & Gainey, Inc., the advertising agency for Landahl Conveyor Co.

Ames, Chairman of Industrial Product Finishes Committee

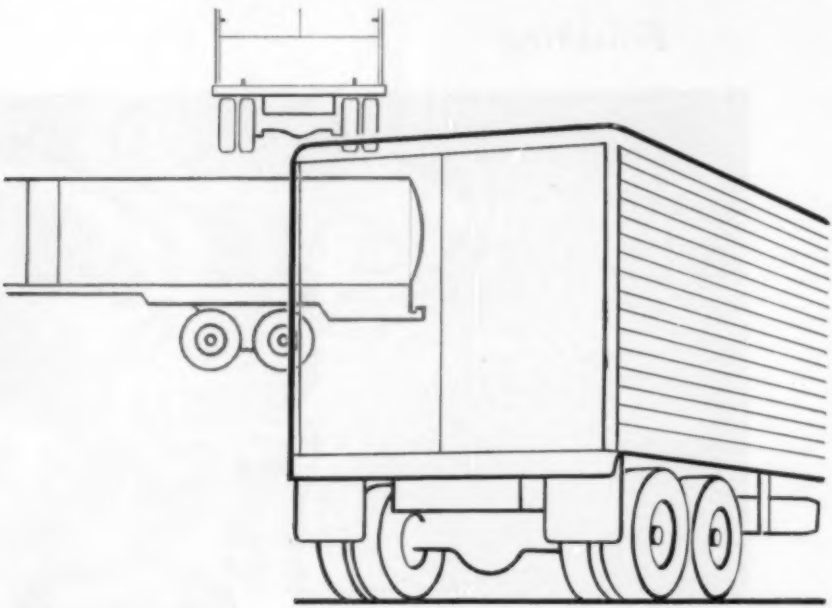
B. F. Ames, General Sales Manager of Mass & Waldstein, manufacturer of lacquers, enamels, and specialty finishes, has been appointed chairman of the Industrial Product Finishes Committee of the New York Paint, Varnish & Lacquer Association.

As chairman of this committee, Mr. Ames will coordinate program activities for the Industrial Product Finishes Group of paint, varnish and lacquer manufacturers in the New York metropolitan area. Plans call for authoritative guest speakers to appear at meetings in October, November, January, February, March and April, who will lead discussions on such important topics as "Standardization Requirements for Users of Industrial Finishes", "Government Specification Finishes"; and "Top Management Responsibilities in the Paint Industries".

Meetings of the Group are held at the Hotel Statler in New York City.



The conveyor makes a series of sharp dips to move parts into and out of a row of dip tanks.



Now... better protection for aluminum

ALUMINUM TRAILER BODIES have a brighter future now, thanks to new durable lacquers made of Eastman half-second butyrate.

This film former can be easily sprayed at high non-volatile content to produce clear films of remarkable outdoor durability.

Exposed for over a year to actual service conditions, half-second butyrate films have shown outstanding weather resistance. Tested on commercially operated trailers, they have proved resistant to water, gasoline, oil, hydraulic fluids, road chemicals, abrasion, steam cleaning and rapid temperature changes.

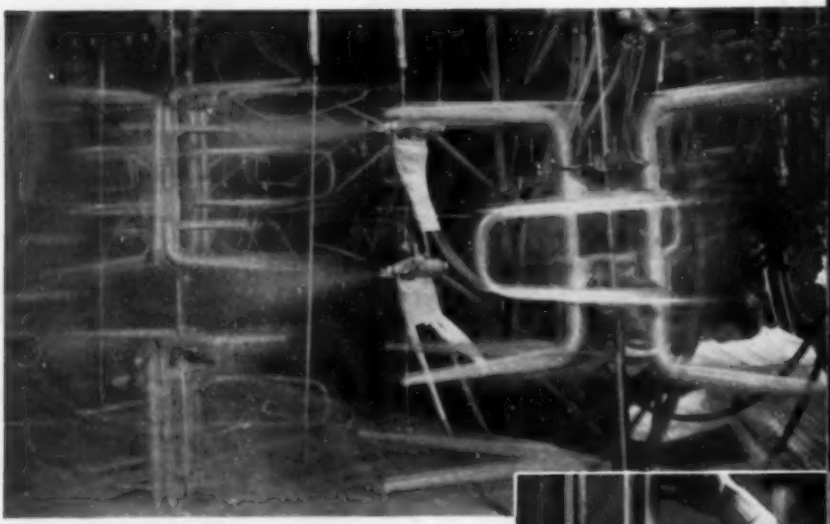
If you are seeking better protection for an aluminum product, investigate half-second butyrate. Let us hear your problem. We will be glad to supply test lacquers specially formulated to your needs and will help you locate sources for commercial quantities. Write to us at Kingsport, Tennessee, or call your nearest Eastman sales office.

Eastman CHEMICAL PRODUCTS, INC.

KINGSPORT, TENNESSEE, a subsidiary of EASTMAN KODAK COMPANY

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tenn.; New York—260 Madison Ave.; Framingham, Mass.—65 Concord St.; Cincinnati—Carew Tower; Cleveland—Terminal Tower Bldg.; Chicago—360 N. Michigan Ave.; St. Louis—Continental Bldg.; Houston—1300 Main St. **West Coast: Wilson Meyer Co.;** San Francisco—333 Montgomery St.; Los Angeles—4800 District Blvd.; Portland—520 S. W. Sixth Ave.; Salt Lake City—73 S. Main St.; Seattle—821 Second Ave.

Finishing



HIGH-SPEED ELECTROSTATIC SPRAY LINE coats clusters of chair legs with Du Pont DULUX as they move through electrostatic field. Superior application characteristics of DULUX permit fast, trouble-free operation!

IN THE CLASSROOM. DULUX finish takes constant day-to-day wear, yet keeps this modern furniture looking like new through years of service.

DU PONT CHEMIST measures flexibility and adhesion of a finish with this testing device.

Chair-leg finish that stands up in class

Today's school furniture is on the go! It's stacked, nested, grouped . . . moved about constantly to meet a variety of modern classroom needs. Yet it must *keep* its good looks through the years to help make school a pleasant place to work in . . . be in.

That's why a leading manufacturer turned to Du Pont DULUX Enamel. Tough, durable DULUX has the strength and flexibility needed to resist scuffing, scraping and scratching for years. And the superior application characteristics of DULUX make it just right for use on a modern electrostatic spray line. Practical DULUX colors mean extra sales appeal in the showroom, too!

Already more than 12,000 Du Pont Finish formulas are serving industry. Perhaps a Du Pont finish can help you improve or develop a product—cut your production costs. For complete information contact the Du Pont sales technician in your area, or write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

Du Pont Industrial Finishes

Chemically engineered to do the job better

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Industrial FINISHING Editorial

Do Non-Toxic Paints Have to Be Edible?

★ In the paint business the subject of toxicity is always interesting. It is of particular interest to manufacturers of juvenile furniture, toys, food wrappings and containers. There is some question as just what to classify as safe and what is unsafe.

There has been considerable research and testing of the toxicity of raw materials (resins, film-formers, solvents, pigments, etc.) that are used in industrial finishes and shelf goods. Many companies carefully test their new products for toxicity before they put them on the market.

Various national, state and local laws deal with toxicity, but these laws are not always consistant. Some materials are known to be safe while others are known to be dangerous to health, but what about the many borderline materials? A manufacturer may learn that his red toy lacquer is considered safe in nine states but harmful in the tenth. He either cannot sell in the tenth state or he must go through the bother of coating part of his production with a different finish. Non-toxic coatings are often more expensive than the conventional type, therefore our manufacturer might not be competitive in the first nine states if all of his production were to be coated with a finish acceptable in the tenth state.

Coatings that the paint industry puts up for sale are for protection and decoration—not for eating. Even non-toxic coatings could make a person sick if an appreciable quantity were swallowed. Where the line should be drawn is not always easy to decide.

The whole situation is rather complicated and sometimes illogical. For example: A small child may chew on a toy coated with a non-toxic lacquer. Care has been taken by both the lacquer manufacturer and the toy manufacturer to see that the toy lacquer is harmless. Then that same child may be put out on a porch next to peeling house paint which contains lead pigments. In this latter situation the child is unprotected.

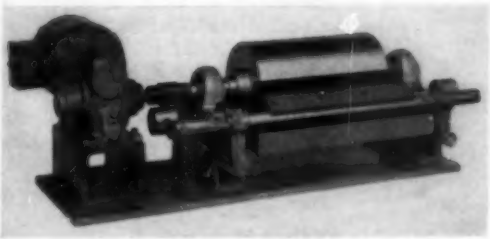
House paints are not designed to be harmless. Presumably, children of the age likely to eat paint are not often exposed, unwatched, to house paint. It would cause a major upheaval in the paint business if house paints had to be made non-toxic.

To this observer there seems to be a strong inclination on the part of many individuals and companies to refuse to "stick their neck out" and state definitely that a material is or is not toxic. They can hardly be blamed for this. There is a need for more detailed technical information, and more detailed and uniform legal classification as to the toxicity of various materials. Both the manufacturer and user of finishes will then have a better idea as what to use and what not to use in any given finish.—*E. V. G.*

★ *Guest Editorial ... Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

WOOD GRAIN . . . . . .

Low Production Jobs
With the HANDY PAIR



T-6 TAKE-OFF

This small engraved cylinder presents a continuous inked and scraped surface ready for the operator to take off by hand a print on any size roll.

Completely eliminates the old hand method of inking and scraping a flat plate by hand.

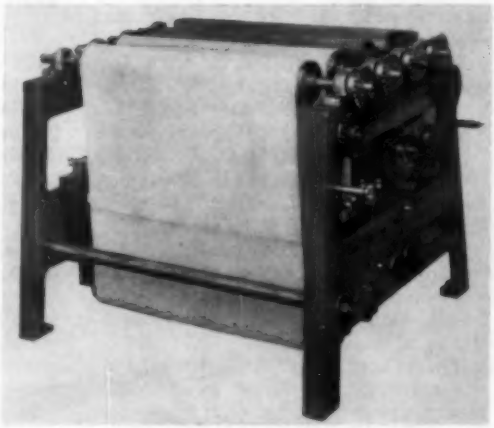
A great time saver.

This roll cleaner first cleans the printing roll in solvents and then drys it on roller towels.

No wiping with cloths, no lint.

Print with one roll while another is being cleaned.

Saves waste of cleaning solvents and time.



ROLL CLEANER

Over Thirty-Years' Experience in the Design and Building of Fully Automatic Graining Equipment

For further information write or phone MA-1352

HAMANT TOOL COMPANY

2916 E. SECOND ST. **DAYTON 3, OHIO**

Viscosity—Check It For Uniformity

★ Uniform viscosity of any paint is vitally important. In spray painting, it not only enables the spray men to get a more uniform film thickness, but it also lets the paint film flow out evenly and with the desired film properties.

Wrinkle finishes are especially quick to react to a different viscosity. All wrinkle finishes are formulated to a certain viscosity by the manufacturer, in order to have the correct pattern or design. They are also susceptible to a bodying action under certain conditions, and if the viscosity increases the wrinkle design changes. The pieces finished today then, will not match the pieces finished yesterday. Nor will the spray man be able to work as freely and efficiently as before.

The same is also true with lacquers. Lacquers have highly volatile solvents or thinners, and sometimes these thinners evaporate very rapidly. When this happens the viscosity increases—often times to the point where the lacquer is difficult to spray and will not level properly.

When dipping, flow coating, roller coating, or using any one of the numerous ways of applying an organic finish to any product, viscosity checking is a necessity.

There are many viscosity cups on the market. . . . These come in different size orifices for thin to relative heavy liquids. For most usages the Ford No. 4 viscosity cup will suffice. The Zahn line of viscosity cups is excellent, with good accuracy and easy cleanability.

Viscosity determinations should be taken each morning on material that may have stood over night. Tests should also be taken when a new material is reduced for use, or when a new can or container is opened. All viscosity readings should be taken at 78° F., regardless of how the paint is to be used later. If the paint is too heavy, then it should be reduced with the thinner supplied by the manufacturer for that particular paint, to the recommended viscosity. Caution should be used in adding thinner so as to avoid getting the paint too thin. If the paint is thinned too far, then it is necessary to blend it off with heavier bodied material until the correct viscosity is attained.

A little preparedness at the beginning of the day will often times avert a lot of trouble later on, particularly in the organic finishing field.—*Ken Copeland.*

Cleanliness and Safety Where Filler Is Used

With modern methods and equipment it is not too difficult to keep the finishing room neat and clean. The wood filler section may prove to be the one exception. If filler is sprayed on the wood surfaces, it is easy to keep the area around the booth clean, but if it is brushed on, some filler is sure to drop on the floor. Regardless of how it is applied, the floor area where padding in and cleaning operations are performed is sure to accumulate some waste filler. If it is allowed to remain on the floor indefinitely, it will adhere to the floor and become almost as hard as concrete.

If this filler area has a wood floor it will be possible to tack down fiber board. When filler accumulates, the fiber board can be taken up, discarded and replaced with clean boards.

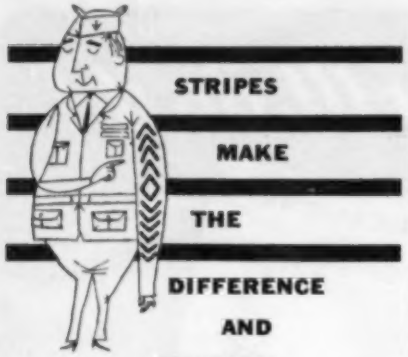
If the area has a concrete floor, the problem becomes more complex. One solution is to oil the floor. This will prevent filler from sticking to the floor, but it also makes the entire floor area slippery and dangerous, especially for operators whose shoes

PERFEX *will do it!*

IF YOU MANUFACTURE FURNITURE
OR WOOD PRODUCTS, WRITE US FOR SAMPLES OR DEMONSTRATION

SEE THE DIFFERENCE FEEL THE DIFFERENCE

Perfection
PAINT AND COLOR COMPANY
INDIANAPOLIS, INDIANA



MAKES THE DIFFERENCE IN STRIPING

A Beugler Striper is the professional choice, yet it's so simple a child can use it. 22 years' experience manufacturing striping tools exclusively has made Beugler the absolute criterion of striping instruments. When you buy a paint striper, buy the best—Buy a Beugler.

STRIPE FOR DECORATION OR IDENTIFICATION

Three Models—Fourteen standard size stripes from which to choose. 1/32 to 1/4 inch. Also many special stripes, concave, convex and double stripes.

Craftsman Model $5.75
2 size stripes—Single guide holder

Deluxe Model $8.95
3 size stripes—Double guide holder

Jumbo Model $12.95
2 size stripes—Double guide holder

2,000 Dealers to serve you—your paint store or auto parts house can supply Beugler products. If no dealer near you, send your order direct or write for literature and information.

BEUGLER MANUFACTURING CO.
4312 W. Second Street, Los Angeles 4, California

have rubber heels. Where the floor is oiled, it is advisable to clean the floor every day and apply more oil.

Another method of protecting a concrete floor area is to lay ¼-in. steel sheets over it. Filler will not readily stick to the metal surfaces, and the waste that accumulates may be cleaned off at regular intervals. Of course, the metal may become slippery due to filler being spilled on it. Also, the metal floor may prove to be dangerous due to the possibility of sparking, especially if metal glides are used on either the skids or on the wood product.

Still another suggestion for protecting the concrete floor is to use fiber board. A 2-in. wide strip of *double coated pressure sensitive tape* can be laid on the concrete around the four edges of each piece of fiber board. Then the board is pressed down on this tape. It will be necessary to use fresh tape after each time the fiber board is replaced. It will also be necessary to have the concrete clean and free of oil, grease and foreign matter; otherwise the tape will not adhere to it.

Air Conditioning Show in Atlantic City, Nov. 28-Dec. 1

Virtually every industry in the country will be affected by developments to be shown at the Air Conditioning & Refrigeration Exposition to be held at the Atlantic City, N. J. Auditorium, Nov. 28 to Dec. 1.

Industrial development has progressed so fast that control of temperature and humidity is one of the most important elements in both maintenance of quality and reduction of production costs. Industrial plants cannot afford the luxury of spoilage, corrosion and production delays caused by improper temperatures and humidity. High speed machines make exacting demands from the atmospheres in which they operate, and it is only plain common sense that workers who are being paid constantly mounting wages should be permitted to work at top efficiency by conditioning the air in plants.

Automation—What to Expect From It

AUTOMATION is one of the big reasons why the American standard of living will rise faster in the next ten years than ever before. Not only factory processes, but many office procedures too will be automatic. Automation will cut costs, increase output per worker, and generate a chain of events leading to more and better jobs, as mechanization always has.

The new concept in industry is to look upon an entire factory as a machine with coordinated parts. Materials flow through it continuously, carried from one operation to another on conveyors. Continuous flow, instead of stop and go, is the big idea. Keep things moving instead of picking them up and putting them down.

In one refrigerator plant, 27 miles of conveyors link 2613 machines, and refrigerators come out at the rate of two a minute.

In a typical modern foundry and engine plant, virtually all lifting and carrying has been transferred to conveyors. Automatic controls regulate the flow of raw materials and parts as well as the machines that perform the intricate operations to turn out automobile engines. Jobs? The plant has 8000 employees. Production as always, depends on men—and women. Automatic equipment just helps them produce more and do a better job. . . .

Intricate electronic devices guide the processing machines and conveyors. Automatically.

NOW Sparkling MULTI-COLOR Finishes

POLY-HUE

- NEW color-flecked textured enamel
- sprays on in ONE APPLICATION
- MANY standard BLENDS—2 to 4 COLORS each

EASY, FAST TO USE!

Without stirring, Poly-Hue sprays on rapidly from a single spray gun . . . leaves no spray dust! One coat covers completely . . . Bonds firmly to metal, wood or plastic.

HARD, WASHABLE FINISH!

Poly-Hue resists chipping . . . cleans easily . . . keeps maintenance costs down.

Color flecks are through the film . . . can't rub off.

HELPS SELL MERCHANDISE!

Poly-Hue's bright, pleasing color patterns attract customers . . . add new sales appeal to television cabinets, children's toys, hotel, restaurant and porch furniture, advertising displays . . . countless household and commercial articles.

WRITE FOR DETAILS . .

AMERICAN LACQUER SOLVENTS CO.

Phoenixville, Pa.

AMERICAN LACQUER AND SOLVENTS CO. OF FLORIDA

Tampa, Florida

No Finer Finishes Ever Made

they say when and how much. If anything goes wrong, the control device rings a bell or flashes a light, calling for help, or it shuts down the whole operation.

Jobs are safer too; there is less exposure of life and limb to dangerous machines. Safety is built into the new equipment and, of course, there is less lifting and carrying.

Only a small fraction of all industrial processes lend themselves to complete automation. It takes a long time to invent and perfect new equipment. Then people must be sold on its advantages. A generation after the automobile had come to stay, half the country still used the horse and buggy.

Automation probably won't make you rich over night, and it probably won't destroy your job. But many jobs tomorrow will be different, and better. There will be more opportunity for talent—technical ability. The proportion of the labor force in unskilled occupations has been declining for 40 years. The unskilled farm hand is gone. In industry there are 100,000 fewer unskilled laborers than in 1940, but total industrial employment has risen by seven million. Automation demands more education. Education—child and adult—is growing faster than any big industry.

Much of the unskilled work of the past consisted of lifting and carrying. At today's labor rates, one horsepower an hour of such work costs $10.00 and up. A conveyor driven by an electric motor can do the same amount of

NOTHING LIKE IT!
Obsoletes all other sanders
Sensational dual-action.
TWO sanders in ONE.
A ROUGHER fast for heavy stock removal.
A FINISHER for fine finishing, polishing.
Saves up to 75% in dollars, time, abrasives (over other type sanders).
Ideal for hundreds of sanding, grinding, buffing, polishing jobs . . . from Plexiglas to Castings.
Write for literature
Easy
NEW ACTION
MOVES 2 DIRECTIONS
AT SAME TIME
DETROIT SURFACING MACHINE CO.
1268 E. Eight Mile Rd., Detroit 20, Mich.

Rejects dropped from 3% to .001%

because of

Better Cleaning

with an

Industrial Washing Machine

The reject rate of this component metal parts manufacturer dropped dramatically when an Industrial Washing Machine was put into use—all due to better cleaning by high-pressure sprays.

One of our 38 different basic designs can probably be used to meet your needs —if not, our engineers can design a machine that will do the job you want.

Get the full story now!
Write Dept. IF-10

ISC INDUSTRIAL Systems COMPANY

Exclusive Sales Agents For
Industrial Washing Machine Corp.
Matawan, New Jersey

lifting and carrying for two or three cents. The worker who might have lived at a subsistence level by depending on his back now uses his brain and keeps pace with the world's highest living standard. . . . .—*R. C. Sollenberger, Link Belt News.*

Parker Rust Proof Co. Has Fortieth Birthday

On August 23rd, Parker Rust Proof Co. became 40 years old. Organized by Clark W. Parker, it was the first company in the United States to offer to manufacturers a phosphate process and product to combat corrosion on a commercially feasible basis.

The automotive industry was the first to employ the Parker process on a large scale. Having proved its effectiveness on bolts, nuts and other small mechanical parts, automakers, by the late twenties, wanted to treat wheel rims which, at that time, were being galvanized to prevent corrosion.

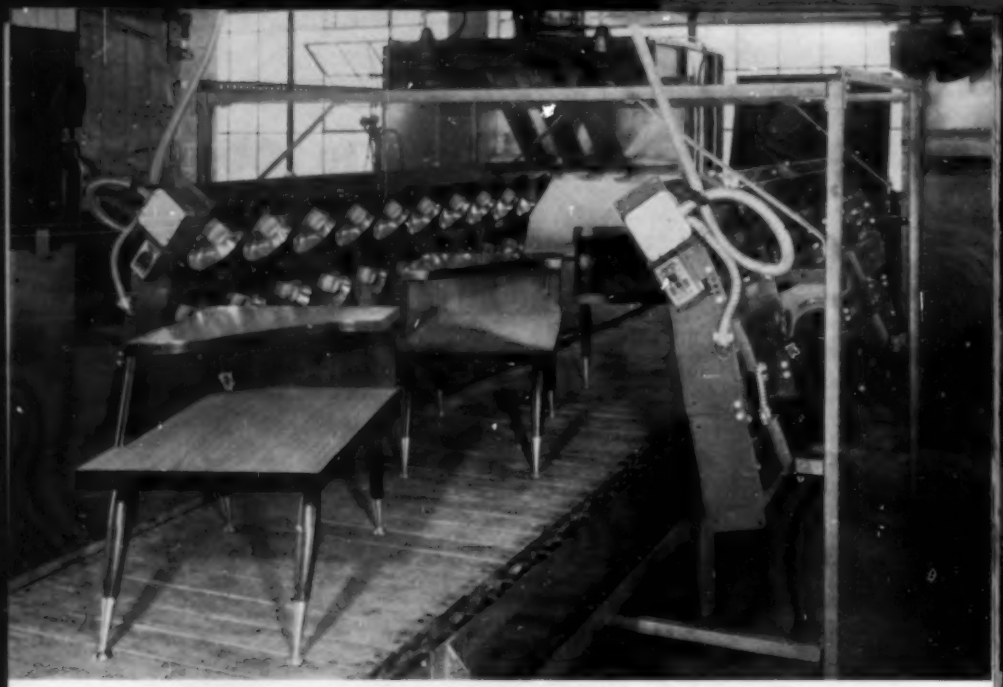
In 1929 and 1930 Bonderite was born. Bonderite speeded up the process to such an extent (from 30 minutes to five and later to one minute and less) that it was now ready for all the conveyor lines of the automobile plants. This great product, providing a secure base for paint, soon was being used in many automobile plants and doubled and quadrupled the paint life on automobiles.

Since 1950, the main facilities at Morenci, Michigan, have been doubled by the purchase of a large plant in that locality. A plant has been purchased on the West Coast and its space was recently doubled; a plant has been built on the East Coast and its capacity recently doubled, and a plant has been built in the Toronto, Canada, area.

Paint, Varnish & Lacquer Ass'n. Convention in Wash., D. C.

The 67th Annual Convention of the National Paint, Varnish & Lacquer Association, Inc., will be held in Washington, D. C., October 31, Nov. 1 and 2, at the Shoreham and Sheraton Park Hotels.

The Industrial Product Finishes Session will be on Tuesday morning, Nov. 1. The Association's address is 1500 Rhode Island, N.W., Washington 5, D. C.



From spray booths, in background, tables move through infrared drying tunnel by conveyor.

Infrared Dries Finish *On Fine Wood Tables*

BY LEO STACK
Finishing Superintendent, Tonk Mfg. Co.

WE MANUFACTURE a full line of cocktail and occasional tables and since the installation of our new ceramic-core variable-temperature infrared driers, 45% of our floor area, formerly used for air drying, has been released for other needs. Also, the increased speed of drying has made it possible for us to speed up our conveyor line—and we have eliminated costly rejects which were due to so much handling and moving of tables. Thanks to our new infrared system, we are getting a finer finished product, through faster forced dry of our toners.

Our finishing department occupies the 4th floor, and includes an area 200-ft. in length by 60-ft. in

Have you Considered...

WOOD GRAIN PRINTING or ROLLER COATING

for your products?

Here's just the machine that pays big dividends

Only long and thorough experience in the practical finishing and graining field, in cooperation with a competent engineering staff, makes it possible to bring you this dual-purpose machine of unparalleled competence and versatility.

Capable of producing fine, faithful reproductions of a variety of grains or patterns, or operating as a roller coating machine adaptable for base coating as well as top coating, it pays big dividends.

The model H.V.R. #24 machine, as illustrated, is ruggedly constructed, with precision built controls that assure precise adjustments for all operations. Change-over from wood grain printing to roller coating is accomplished in minutes. For wood graining, it is adaptable to almost any kind of production, either completely assembled cabinets or flat stock.

Standard models from 24-in. to 36-in. are adaptable to run in either horizontal or vertical position, with adjustment range of 24-in. in the horizontal position. It is completely automatic in operation through neoprene feeding belt synchronized with the machine. Anyone can operate it without previous experience.

KENT ROTARY EQUIPMENT CO.
1821 Edgecliffe Drive
Los Angeles 26, Calif.

Experienced finishing-graining service man available for installation and to assist in initial production setup.

Left, horizontal position for graining; right, vertical position.

width, under a 13-ft. ceiling. Tables are delivered to the finishing department by a vertical conveyor from the cabinet department on the 3rd floor.

At the beginning of our finishing production line we have two spray booths—one for spraying a lacquer-base toner and the other for spraying NGR stain. *It is here that we make use of our new infrared drying equipment.*

After Toner or Staining We Use Infrared Drying

After spraying either the toner or the NGR stain, the operator places the table on a horizontal slat-type conveyor which runs the length of the finishing department. Formerly it was necessary to have an off bearer for each spray operator, to place the tables on the floor for a 30-minute period of air drying. Subsequent operations then required the off bearer to place the tables back on the conveyor.

Today, after spraying, each spray operator places the table on the slat conveyor and is then in position to receive a new table from the vertical conveyor. Tables that have been sprayed with toner or stain then enter the 10-ft. drying area which is heated by the ceramic core infrared generators. Since the conveyor speed is only 5-ft. a minute, each table receives two-minutes of infrared drying.

We have reduced our drying time here from 30 minutes to two minutes. Temperatures in the drying tunnel are adjustable through the use of a temperature in-put controller. In general practice our control is set at 70% of total infrared energy. Temperature on the wood is brought up to 115°-120° F. Next, a light sanding follows with No. 5/0 abrasive paper.

We Needed Faster Drying, Using Less Floor Space

We became interested in infrared drying because we felt that faster drying would be the answer to our limited floor space problem. As a matter of fact, we had been thinking of installing forced drying equipment for the past few years. However, it had been our belief that a real satisfactory infrared application was yet to be developed for the wood finishing industry.

We investigated all types of forced convection drying and other methods of air circulation. Then we called in a local finishing equipment engineer and asked for his suggestions on the use of infrared. From his experience he could not recall of a similar application. Our local power utility representative was unable to locate a furniture manufacturer who was using infrared in this manner. Our paint suppliers, after a thorough investigation, felt that there might be merit to the system.

Eventually a local finishing engineer arranged to demonstrate a new, ceramic-core variable-temperature infrared unit at our plant, on our tables, and using our present materials. Upon the results of this successful demonstration, we concluded that this system of quick drying had the features necessary for satisfactory performance in the woodworking field.

We liked the idea of variable temperature control. By this meth-

SPRAYON "PUSH-BUTTON" TOUCH UP

touch up your products anytime, anywhere... factory-perfect job every time!

YOUR OWN FINISH FROM YOUR OWN SOURCE

In use by industrial leaders in every field, the Sprayon Self-Spraying Touch Up Tool ends your touch up problems. Protect the eye-appeal of your product—get an extra bonus of customer satisfaction—and do it with big savings in time, cost and equipment investment! Sprayon goes right to your source for your own touch up finish, custom-loads the Tools for you under your own label. Exclusive Sprayon features mean even unskilled help do a factory-match job in minutes...for pennies. Use it anywhere—from your own production line to the final customer. Nothing else to buy—it's a disposable low-cost constant-pressure spray gun—a complete paint shop in a can!

WRITE TODAY FOR YOUR FREE "PUSH-BUTTON" FOLDER

SPRAYON PRODUCTS, INC.

2075 EAST 65 STREET
CLEVELAND 3, OHIO

SPRAYON *Self Spraying* TOUCH UP TOOL

od, we could control the amount of radiation onto the various styles and sizes of tables we produced.

In this one oven installation we can handle all of the pieces we produce. This new system of infrared gives us a worry-free operation, because the principle which provides the heat source is a ceramic-core generator wound with electrical elements and coated with a covering of lava. The generator is mounted in an aluminum reflector which is scientfically designed to eliminate hot or cold spots in the baking area.

Our Drying Equipment is Versatile; Easily Changed

The ceramic generators are impervious to shock, vibration and moisture, so we have no bulb or socket replacement problem. Being dark burning, there are no light hazards to the eyes of those who work near the drying unit. The heat produced by these infrared sections, even at high temperatures, does not cause any discomfort to workers in the area.

The infrared ceramic generators are mounted four to a section. Any number of sections can be added or rearranged by adjusting the hinges to form an oven to fit present or future requirements as to height or length. This fact, combined with our variable temperature control and variable conveyor speed, allows unlimited versatility in our production. If further production requirements necessitate our changing the oven setup, we are in position to do so with a minimum of delay or inconvenience.

Service and Cooperation Helped Us to Success

We have all learned from past experience that a product is no better than the service behind it. We have observed the thoroughness and sincere interest of the representatives of the infrared heating equipment manufacturer who designed, engineered, demonstrated, installed and operated the system in a first-class manner. The cooperation of the paint supplier and the power utility representatives was of considerable benefit on our oven installation. We are saving money on valuable reclaimed floor space and on labor.

We are so pleased with the installation that we are experimenting with other applications which we might possibly make with infrared in our finishing department.

Equipment in our finishing department includes seven spray booths, 14 spray guns, seven fluid regulators, seven circulating pumps and 170-ft. of slat conveyor.

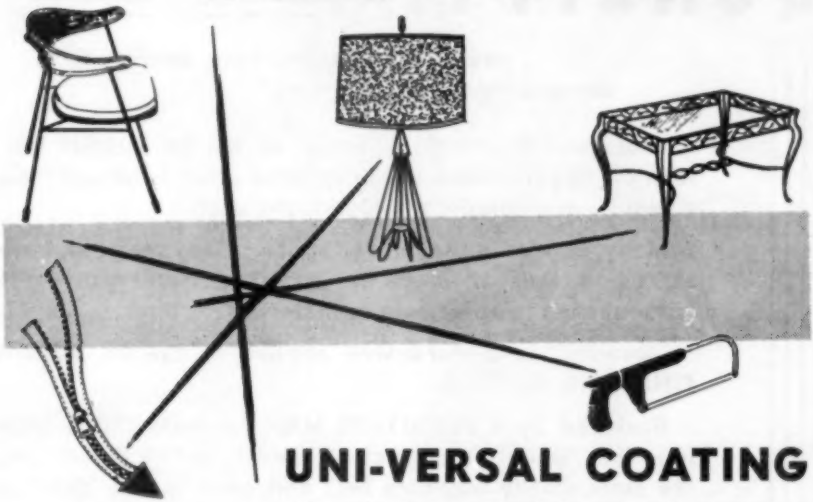
Acknowledgments: Photographs for this article were supplied by Dry Clime Lamp Corp., through the company's advertising agency, Tevie Jacobs. The local engineer and manufacturers' agent who gave us so much help is Jack K. Stevenson.

Production of "Parlon" Increased In Hercules' N. J. Plant

Hercules Powder Co., 966 Market St., Wilmington 99, Dela., has enlarged its Parlin, N. J., plant for the production of Parlon (Chlorinated rubber) so that its capacity is increased by 60%.

Parlon is sold to various manufacturers of paints who use it to make Parlon-based paints, noted for their durability, beauty and resistance to corrosion.

IS ADHESION YOUR PROBLEM?



UNI-VERSAL COATING

NOTE:

Uni-Versal Coating, a development of United Lacquer Corp.'s Research Laboratories, has gained such wide acceptance that Instrument Black and all colors are available for prompt shipment from stock.

Wrought iron furniture, lamps, tools, zippers . . . any product made of aluminum, chrome, iron, copper and other ferrous and non-ferrous metals will have a superior finish when you use Uni-Versal Coating.

As a base, or as a top coat, Uni-Versal Coating anchors itself to the metal with such firmness that you can apply it and then perform all normal drawing, blanking or extruding operations without disturbing the finish. It also provides unusual resistance to salt spray, humidity, abrasion, solvents and tarnishing.

Uni-Versal Coating air dries in 15 minutes and is ready to handle in 30 minutes. It can also be force dried, or baked.

If you have a difficult finishing problem, get a free working sample of Uni-Versal Coating for tests on your own products, today. Just write.

PAINTS · SYNTHETICS UNITED LACQUERS · ENAMELS

United LACQUER MFG. CORP.

LINDEN, N. J.

Southern Distributor: CROWN PAINT CO.
2127 NW First Ave.
Miami, Florida

QUALITY!

". . . and best of all we have improved the quality of our product."

Those words written in praise of the DE BURGH FINISHING SYSTEM have been repeated often in letters from a rapidly growing list of enthusiastic users.

Many, in praising labor and space saving features, have expressed their pleasure in improved quality of finish without change of formula or materials.

"Quality" is a word well applied to the DE BURGH FINISHING SYSTEM.

Designed by a FURNITURE MAN for FURNITURE MEN it is the "Quality" product at lowest cost that will save the most money and give best efficiency in your finishing room.

▶ Write today for this Free Booklet on conveyorized Furniture Finishing. No obligation. No representative will call unless invited.

Designed by a Furniture Man for Furniture Men

DeBURGH CONVEYORS, Inc.

10 SOUTH 11TH AVENUE
EVANSVILLE, INDIANA

1743 K STREET, N. W.
WASHINGTON 6, D. C.

***Pat. Nos. 2317675, 2640580, 2640607**

ROCKFORD VARNISH
RV
ROCKFORD, ILLINOIS
MANUFACTURERS OF
PROTECTIVE AND
DECORATIVE FINISHES
. . . to return to mundane matters: R/V products that are carefully compounded especially for you include full lines of varnishes, enamels, and lacquers, plus a series of specialties for particular purposes. Tell us what you need, today . . .
Affiliate: GORDON BARTELS CO., Roller Coating Specialists

some new developments in *Screen Process Work*

BY J. I. BIEGELEISEN

Co-Author of "The Silk Screen Printing Process"

MORE THAN 3000 members attended the 7th Annual Convention of the Screen Process Printing Ass'n., International, at Atlantic City, Sept. 10-14. They were eager to see new equipment and to learn more about the latest developments in practical screen process work. They came from all over the U.S. and from many foreign countries.

It seems that now there are as many concerns who use the screen process for industrial purposes as there are those who use it as an advertising medium. Some authorities contend that greater use in volume and diversification is made by industrial users. In fact, this year the exhibit was billed as the "Products Exhibit."

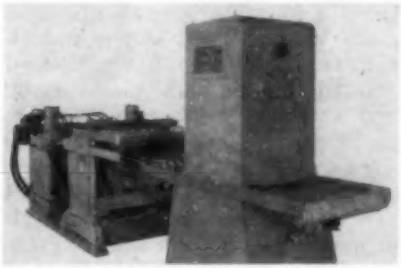
Today, screen processing is used not only to apply standard paints and varnishes but also lacquers and enamels, etching compounds, adhesives for flock and glitter, metallic compounds for printed circuits, ceramic colors, etc. Products include furniture, toys, flocked surfaces, all types of containers from delicate cosmetic bottles to big steel drums, wall board, instrument dials, decalcomanias, greeting cards, name plates—well, the list is too long to mention all of the things that are produced so efficiently, so decoratively and so economically with the aid of the screen process.

Several exhibitors of screen process equipment told me that not only did they have more industrial processors stop by to ask questions about equipment and machines, but that actually they made more sales to these users. Here are some of the exhibits which seemed to be of special interest to processors of industrial products:

Thermo-Jet Dryer at Outfeed End of Screen Process Press

This new drying unit was geared to the fast operating automatic screen press. It is efficiency, compact and rigid in construction. A steel mesh belt with a variable speed drive supports printed sheets as they pass under the perforated plate of the unit. In addition to a moderate heat (185° to 190° F.) large quantities of warm air are blown through the perforated metal plate. This air moves at high velocity, producing many tiny air jets which strike the printed sheet and carry away solvent vapor being removed by the heat. It will completely dry prints in a few seconds.

The Thermo-Jet principle is applicable to all types of evaporation



Conveyorized Thermo-Jet receives printed work from screen process machine and dries the paint as the stock travels through.

drying . . . . but it is not suitable for drying synthetic enamels and inks which dry by oxidation. The pressure and volume of air from the jets prevents formation of an insulating blanket of solvent-laden air which normally slows down the drying in most conventional drying units.

New Thermoplastic Paint Dries "On Contact"

In line with experimentation to develop quick drying screen methods, a new type of screen unit made its debut at the show. This unit represents a marked departure from all previous attempts to solve the drying problem. In essence, the principle of its operation is as follows:

A thermoplastic paint is used; it is kept at a controlled heat and printed in its hot state through a wire mesh screen which is also heated. As soon as the heated plastic paint hits the printing surface it immediately "freezes" and the print comes off the press dry to the touch and dry enough to stack. These points seem worthy of consideration:

The unit removes the need for drying equipment. Printed material comes off the press ready for a second or third color, or for fabrication. Multiple color work can run continuously through various color steps with no intermediate drying steps. Sheets can be automatically stacked as they come off the press, ready for trimming, fabricating, or delivery. So much for what is good about this new dry plastic principle of printing.

Now for the what-is-yet-to-be-perfected phase—at least from the point of view of this observer. The machine is noisy . . . . Printed areas are raised with a slightly embossed effect, caused by the plastic paint congealing so quickly on the surface. In some cases this may be desirable; in other instances, the raised effect would be objectionable. The plastic paint, though it comes off the press dry enough to stack, has a tendency to crack in rubbing long after the job of printing is finished. In time these possible objectionable features may be overcome, and when that is accomplished a startling new principle of screen printing will have been developed.

Semi-Automatic Presses For Custom Work

While automatic screen presses, now available, are completely automatic in feeding, printing and delivery, there will always be a need for printing machines designed to print difficult materials at speeds depending upon the nature of the printing stock.

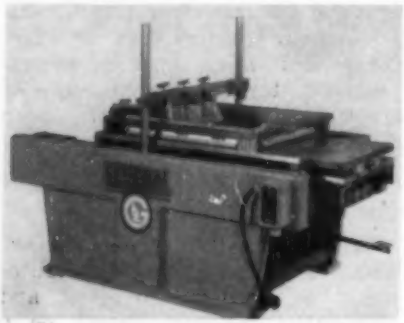
For certain materials of special interest to people in the industrial

finishing industry, the semi-automatic press offers definite merits. The rate of press speed is controlled by the operator and can be governed by the nature of the stock. For instance, heavy masonite or glass will require greater time in stock handling, feeding and take-off than the printing of any thin uniform paper stock.

The semi-automatic is especially suitable for materials that require special handling. This includes flexible cloth and vinyl, glass, slate, masonite, plywood, rubber, metal.

General Decorator Press Has More Improvements

The manufacturer of this press is no newcomer in a field of automatic screen printing machines. For the past few convention years, the General press has attracted wide attention. This year's models represent further development in sturdiness of construction, speed and complete automatic operation.



Three basic elements of this decorator press are: 1) a reciprocating one-piece bed which supports and carries the work, 2) a reciprocating stencil frame, and 3) a stationary squeegee. The work is hand registered to fixed guides fastened to the press bed. During the printing stroke the work is held flat by vacuum holes in the bed.

Certain improved models are especially recommended to the industrial trade for the production of printed circuits, name plates, metal and wood specialities, etc. Work to be printed is hand registrated to fixed guides and is held by suction on the vacuum printing plate. The press operates on a constant cycle or an adjustable intermittant cycle. Sheets are delivered to the front of the press for placement on a conveyor.

Automatically Spreads Glitter Over Wet Adhesive

Of special interest to specialists in glitter production is a new machine which applies any of the varied sparkle materials onto any material carrying a wet screen print adhesive. The wet print, as it leaves the screen printing table, is placed on a conveyor which carries the sheet under a cascade of sparkle material and ejects the sparkled product at the rear of the unit. The process is clean and dustless, eliminates waste of sparkle material and represents a more efficient way of doing this job than is possible by hand.

Reflective Screen Process Ink

A new development in the ink field may be of special interest for some latent specialty not yet completely explored. This is a reflective screen process ink that can be printed through the screen much the same as standard paints. It reflects lights with the same intensity as highway markers and signs which bounce off the reflection of automobile headlights. It is said to be 50 times brighter than white paint. [*Continued on page 88*]

The chameleon is known to change his color scheme at will . . . varying his appearance to blend with the protective surroundings at hand.

when it comes to

specialty finishes . . .

The chameleon is nature's fine example of finishes for any occasion. In industry, however, even the versatile chameleon seems staid when it comes to specialty finishes. For your own specialized needs, no matter how exacting your requirements, Day can supply the finish best suited for your product. Try us and see.

JAMES B. DAY & CO.
CHICAGO 14, ILLINOIS

Industrial Finishes for Application by All Methods

Manufacturers of:

specialty finishes	enamels	shellac
lacquers	undercoats	stains
sealers	fillers	glazes

Better Industrial Finishes for over Half a Century

Inflatable Rubber Frame; Stainless Steel Fabric

Here is a new development in screen construction which will be of special interest to the product decorator. There are two features to this unit. The frame is of an ingenious fabrication of rubber tube shaped into the conventional rectangular form of a standard screen frame. What is unique about this particular frame is that when air is pumped into it by means of a bicycle tire pump, the frame expands and stretches the screen fabric attached to it. Result: The tightest screen you have ever seen, and with a minimum of time and effort.

Now about the fabric: The screen is composed of a stainless steel fabric finer, more uniform and more durable than any conventional silk fabric. It will be excellent for printing on glass, sheet metal, wood and other hard surfaced stock that might damage a conventional silk fabric screen.

According to the New York distributor (it is manufactured in Germany) this new type of printing unit has aroused considerable interest among product decorators and industrial printers. Incidentally, the printed samples of work produced by this steel fabric screen are the finest examples of screen process printing I have ever seen.

Binks Builds Plant Addition

Binks Mfg. Co. has broken ground for expansion of its plant in Franklin Park, Illinois. The addition, which increases the area of its present plant by 15,552-ft., will be completed in December 1955.

The new extension will house the enlarged operations of pipe fabrication, air compressor manufacturing facilities and the sheet metal engineering department.

The addition will make it possible to step up the production of Binks spray painting booths, water cooling towers and air compressors.

Burke Roche (left) President of the Binks Mfg. Co. and Edward Simon, President of Ashland Construction Co., watch as the first earth is moved in preparation for the expansion of Binks plant in Franklin Park.

Paynton Represents Landau Co. In Part of N. J. and N. Y.

J. Landau Co., Carlstadt, N. J., manufacturer of industrial finishes, lacquers and enamels, has just announced the appointment of Mr. William Paynton as Sales and Technical representative for northern New Jersey and Southern New York state. Mr. Paynton is a resident of Ridgewood, N. J., and has been associated with the industrial finishing field for the past eight years. Five of these years have been with the J. Landau Co., during which time he rose in the ranks, working in production, laboratory and color control.

Despatch Cleaning Bulletin

Illustrations and practical information about 2, 3 and multiple-stage cleaning machines are included in the new 12-page, 2-color Bulletin 68 offered by Despatch Oven Co., 619 S.E. 8th St., Minneapolis, Minn.

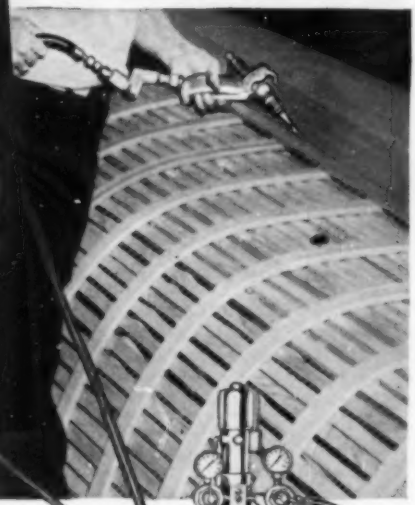
Alemite Versatal Pump Saves money 4 ways

FOR BOAT MANUFACTURER

...by

PUMPING

caulking compound!



Hit-or-miss hand caulking guns and putty knives have been replaced by an air-operated Alemite Versatal Pump and Flo Gun at one of the country's leading boat manufacturers. The Versatal Pump is used to apply caulking compound to strip-edges during boat construction. It makes important savings these four ways:

1. Speeds Production! Caulking compound is applied faster. Man-hours required to hand-fill small caulking guns eliminated.

2. Cuts Costs! Caulking compound can be bought by the drum—at lower price per pound.

3. Eliminates Waste! *All* of the caulking compound can be emptied from container. No messy handling!

4. Gives trouble-free construction! Power application assures a perfect job—*every time!*

Alemite Versatal Pumps deliver up to 27 gallons of material per minute. There are 22 different models, with the proper size air motors for *your* needs.

Whatever material you use, if you buy it by the drum, Versatal can move it for you faster, better—*and at less cost!*

FREE Idea Book!

How Versatal Methods Can Help Solve Production Problems. Write Alemite, Dept. L-105, 1830 Diversey Parkway, Chicago 14, Illinois.

A PRODUCT OF SW STEWART-WARNER

ALEMITE *Versatal* SPRAY-PUMP EQUIPMENT

Sealer for K. D. Furniture

I am a manufacturer of knock-down furniture made from Eastern white pine and rock maple. These furniture kits are shipped unfinished to the customer who assembles them and they apply our stain and wax to complete the pieces.

I am looking for a manufacturer of a sealer or wood stabalizer which can be applied to our wood during the manufacturing process.

It is of utmost importance that the wood can be subsequently stained once it has been sealed.

Could you send me a list of manufacturers that could supply me with such a sealer?—*C. C.*

Yes, many concerns can supply a material suitable for your purpose. In a letter we are naming several of them.—*Editor.*

Heat Resistant Paint

In Sept. issue, page 92, a coal furnace manufacturer wrote to you regarding heat resistant finishes for heat exchangers. In your answer to his letter you mention sending him the names of a few suppliers of high heat resistant coatings. We are currently faced with exactly the same problem on our heat exchangers and I would appreciate receiving a carbon copy of that letter.—*Lennox Furnace.*

Information supplied.—*Editor.*

Automatic Painting

We refer to one of the "Letters from Readers", as published in Sept. issue, pages 92 and 94—the one on roller coating machines as requested by the H.E.P. Co. Please advise this company that we are manufacturers of both semi and automatic spray painting machines and machines for special design or any type of decorating machinery to meet the customer's needs. In the past we have designed and built roller coating machines.

We would welcome this customer to our plant, or arrangements can be made for an engineer to visit this company.—*Conforming Matrix Corp.*

Catalyst Spraying

We have just read the article "Catalyst Spraying" by W. Beacham in April 1953 issue of *Industrial Finishing*. A catalyst spray gun is illustrated, the name for which, a footnote states, will be supplied upon request. Would you kindly supply us the name of this spray gun at your earliest convenience?—*H. & L. Co.*

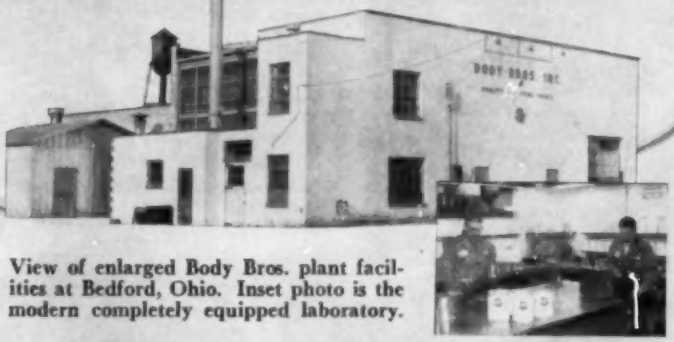
The gun illustrated is a product of Binks Mfg. Co., 3116 Carroll Ave., Chicago 12, Ill.—*Editor.*

Masking Machine Wanted

I read with interest an article on a portable masking machine in *Industrial Finishing Magazine*. As the masking of our vehicles prior to

Now! Enlarged Body Bros. Facilities

Provide GREATER PAINT QUALITY AND SERVICE PROTECTION



View of enlarged Body Bros. plant facilities at Bedford, Ohio. Inset photo is the modern completely equipped laboratory.

How Body Bros. Facilities Serve You Better

- Modern fully equipped laboratory is available for specific job analysis and special finishing problems.
- Guaranteed paint values from exacting quality control tests of every batch.
- Exacting formulas tailor-made to fit your production requirements.
- Research for the development of better products.
- Broader line of production finishes and industrial maintenance paints.
- Delivery of orders when you want them.

MORE THAN A PRODUCT . . . A STANDARD OF EXCELLENCE

BODY BROS.
incorporated
BEDFORD, OHIO

BoGard FINISHES

A BoGard representative, experienced in all phases of industrial finishing problems, will be glad to call on you promptly at no obligation.

painting presents quite a problem to us, I would appreciate any assistance or advice you could give us in this direction.—*The Standard Motor Co., Melbourne, Victoria, Australia.*

In a letter we are naming three manufacturers.—*Editor.*

Synthetic Resin Sizing

We would like to obtain further information on the synthetic resin sizing which was mentioned in September issue, page 79. We are interested in the name and address of the manufacurer of this synthetic resin sizing. —*W. A. Co.*

The one I had in mind when I wrote that article is a product of Reliance Varnish Co., 4730 Crittenden Drive, Louisville 9, Ky. The company's Bulletin N-9 reveals more details about it.—*P. C. Bardin.*

"This is probably the best mixing room in the business!"

Solvent Vapor Drain

We have found the article on "Dipping, Flow Coating Go Modern—V", in August issue of *Industrial Finishing* to be of much interest.

Would you kindly help us to locate one or several manufacturers and designers of solvent vapor drain areas, such as those described in your article?

We operate at the present by dipping for the primer coat in open drip pans and are desirous to complete our installation by adding a solvent vapor drain enclosure. — *M.D.S.A., Trooz (Liege) Belgiqe.*

In a letter we are naming concerns that are experienced in designing, engineering and building solvent drain tunnels.—*Editor.*

Electric Conducting Paint

We would appreciate getting a list of concerns manufacturing electrical conducting paint which was mentioned in a recent issue of this magazine. —*Naz-Dar Co.*

In a letter we are sending you a list of six concerns that can supply this material.—*Editor.*

Electrostatic Flocking

We notice that on page 91 of August 1955 issue an inquiry came in from G. H. H. for information on electrostatic flocking. If you will send us the name and address of the inquirer, we will be happy to provide the individual or firm with complete information on electrostatic flocking.

We have a complete laboratory in which various types of electrostatic flocking equipment (and also non-

Charles **RAFFI** *and*
Martin **SWANSON**
invite you...

To visit our new, modern plant in Wilmington, Massachusetts and to observe how these special facilities plus this skilled, well equipped research laboratory can better serve your needs for industrial finishes, lacquers, synthetics, and coatings.

Or, for a quick picture of the range and diversification of our products and services, write for our brochure titled "The Raffi & Swanson Story."

RAFFI & SWANSON INC.

Manufacturers of Industrial Finishes, Lacquers and Specification Coatings Since 1925

100 EAMES STREET, WILMINGTON, MASSACHUSETTS

electrostatic) are on display. Customers may witness their samples being coated with flock on various types of equipment. The customer is then able to decide which equipment is best suited for his type of application.

We will be happy to welcome G. H. H., as well as any other interested individuals, to witness a demonstration of this equipment. —*Cellusuede Products, Inc.*

In a letter we are revealing the identity of G. H. H. which is a company in Holyoke, Mass.—*Editor.*

"I see the trouble shooter ran into a little trouble . . . "

Brass Finish on Wood

Will you please send us the names and addresses of companies which make brass finishes for wood?—*G. Crib & Cradle Co.*

In a letter we are sending you the names of six concerns which we know of at the moment.—*Editor.*

Flow Coating Machinery

As manufacturers of complete finishing installations, we are interested in importing, or building under license, flow coating machinery . . . —*E. A., Milano, Italy.*

Information supplied by letter.—*Editor.*

Roller Coating Machines

We have noted a request for the names of companies manufacturing roller coating machines in July issue. We would appreciate your sending these names to us also, and send them to our Newark office . . .—*L. Tanning.*

Information supplied.—Editor.

Water-Resistant Lacquer

Will you please send us the address of the Comet Chemical Co., Inc., mentioned on page 91 of August issue, in connection with water-resistant clear lacquer for fishing lures?—*Paw Paw Bait Co.*

It's 410 Adams St., Newark 5, N. J. —*Editor.*

Black Light Inspection

Thank you for your letter of Sept. 1, inquiring about fluorescent material to be used in glue.

Under separate cover we are forwarding a copy of our complete catalog. Page 29 is devoted to Black Light Inspection in manufacture. You will note that we supply a C-213 Dye to be used in glue, which will fluoresce.

Listed among our customers is the F. S. Harmon Mfg. Co. of Tacoma

Electro Cold Stripper

STRIPS IN SECONDS

ELECTRO T415 also strips epon and epon-modified coatings in minutes.

NON-FLAMMABLE NON-TOXIC NON-INJURIOUS

High bake enamels, japans, primers, hammers, 3M products (Scotchlite Brand Reflective Sheeting) come off quickly in ELECTRO COLD STRIPPER.

No heat, no current. Reduce costs, occupational hazards and stripping time to seconds or minutes instead of hours.

Recommended by leading industrial and Governmental agencies.

Try ELECTRO COLD STRIPPER and save

Order testing sample gratis, 5-gallons at drum price, or forward parts to strip with handling requisites.

ALLIED FINISHING SPECIALTIES CO.
PHONE: AR 6-2222
2641 W. GRAND AVENUE, CHICAGO 12, ILL.

Direct Pressure Can & Small Drum Filler

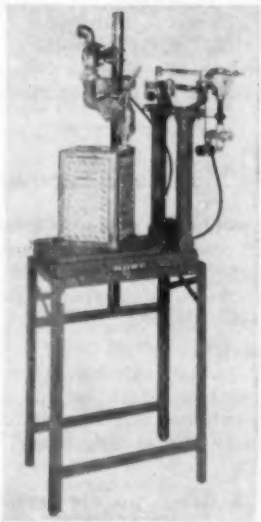
This machine is recommended for filling heavy liquids into container capacities from 1-pint to 5, 10 and 15-gallon drums whose gross weight is not in excess of 250-lbs.

Scale beams at operator's eye level. Weights can be easily checked or changed. Upper beam graduated 15-lbs. by 1-oz. Lower beam 50-lbs. by ½-lbs., making it possible to tare any container before filling and check the results after. Special sealed counterpoise weights for net container contents if desired.

Scale platform measures 12-in. by 15-in., and can be supplied with roller conveyor at slight extra cost.

Filling valve is both vertically and horizontally adjustable, and will rotate across scale platform to center nozzle over round, square, or rectangular container openings. Interchangeable nozzles are available to fit all orifices from ¼-in. to 1½-in.

When writing for further information, please specify: Capacity and gross weight of containers to be filled, as well as liquid being used; Flat or roller platform; Voltage, phase and cycle of electric current in use; Bronze or cast iron valves.



THE VOL-U-METER CO.
P. O. Box 54, Buffalo 16, N. Y.

who recently wrote: "Some time ago we adopted one of your dyes in our glue for our case goods plant. This has proved to be very beneficial to us".

You will note from the catalog that we also manufacture the black light lamps for use with this dye. We manufacture a complete line of fluorescent materials and lamps.

We will appreciate your referring prospects to us and we will do our very best to serve them promptly and courteously. — *Shannon Luminous Materials Co.*

We Like Your Service

We would like to take this opportunity to thank you for your assistance with our problem of cleaning glass windows (paint removal) and a material to repaint the windows to cut down sun glare.

We have selected the products to be used in each instance and they were from the list of suppliers you forwarded to us.—*Day & Zimmermann, Inc., Lone Star Ordnance Division.*

Iridescent Lacquer

I would appreciate getting the names and addresses of the six manufacturers of the iridescent lacquer referred to on pages 85 and 86 of July 1955 issue.

One make of material I have been using is not suitable. It must have the rainbow effect, as one gets from the mentioned oily rain water.—*R. N. (Novelty Finish Spraying).*

In a letter we are naming seven concerns, some of which can probobly supply what you want.—*Editor.*

Who Makes "Devcon"?

In September 1955 issue, on page 6 of "Random Comment", we read an article on a plastic material ("Plastic Steel") called "Devcon". We would like to know who makes this product and where we can buy it.—*Atlas Co.*

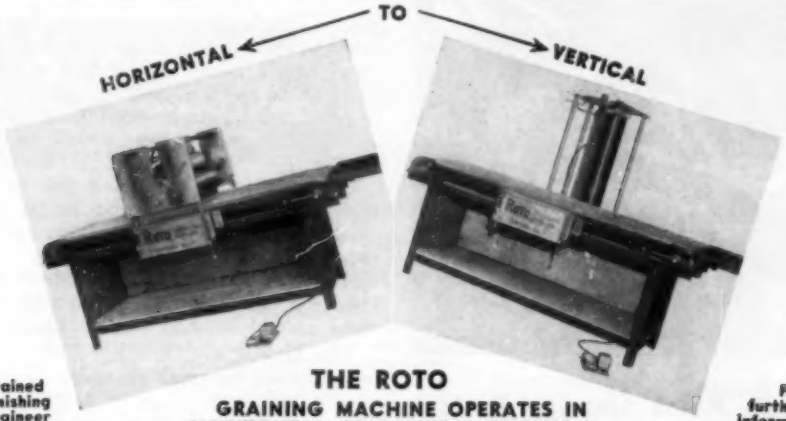
According to our records, it is a product of Chemical Development Corp., Danvers, Mass.—*Editor.*

"Joe . . . how long have you been spraying in those pants?"

Pumps for Chemicals

On page 125 of August issue you have a news item which describes a pump for corrosive chemicals. The trade name "Flex-i-liner" also appears in the article. Please give us the name and address of the manufacturer who makes this particular pump.—*Lea Mfg. Co.*

It's Vanton Pump & Equipment Co., Hillside, N. J.—*Editor.*



Trained Finishing Engineer available to supervise installation and initial finishing problems.

THE ROTO
GRAINING MACHINE OPERATES IN HORIZONTAL OR VERTICAL POSITION.

This H-V model grains face up, and is designed for conveyorized systems, having its own conveyor full width of printing surface. Other graining models available, include vertical and horizontal edge banders, horizontal 50", horizontal self-drive for heavy paper or metal in rolls.

For further information write, wire or call Newmark 8-1778 or Newmark 8-6691

ROTO FINISHING SYSTEMS 1105 EAST GLENCOE AVENUE COMPTON, CALIFORNIA

RONCI SPEEDIP WHIRL ENAMELER

Made in Three Sizes, R-100, R-200 and R-300. Capacities 312-cu.in. to 4400-cu.in.

IDEAL FOR LACQUERING AND ENAMELING PARTS UP TO 20 INCHES IN LENGTH

CUTS COSTS, SAVES UP TO 80% OF MATERIAL

Carries up to hundreds of lbs. per load, and up to 30 loads per hour can be coated with lacquer or enamel in these machines.

All operations are within the machine. Dipping tank is raised, submerging the parts in the basket, and then lowered and the parts whirled, throwing off excess material. No additional outside tanks required; no cleaning necessary when changing colors; no loss of material.

Prompt Deliveries

Write for further information and submit samples to be coated.

RONCI MACHINE COMPANY

A Division of F. Ronci Co., Inc.

2 ATLANTIC BOULEVARD CENTREDALE II, R. I.

To Paint Slender Rods Threaded at Each End

We contemplate manufacturing a new product for marketing after the first of the year. We are faced with a finishing problem. Thus far all of our products are spray painted; however, the component parts of the new item are not suitable for this method of coating.

For example, one part is a 5/16-in. metal rod 34-in. long, threaded on both ends. This rod must be painted but the threaded ends must be free of paint. Masking both ends and spray painting these small diameter rods would be too expensive on production work. Do you have any suggestions to help us to solve this problem?—*A. C. H. Co.*

I suggest that you plan to coat these threaded rods by conveyorized, controlled dipping.

First, of course, all traces of grease, oil and finger marks will have to be removed from the rods. This can be done in a power washer, a series of dip tanks or a vapor degreaser. Inasmuch as you do other metal finishing, you probably have some sort of cleaning equipment.

I would use an overhead conveyor from which the rods could be suspended vertically. Over the dip tank the conveyor would make a V-dip instead of a U-dip. The angle of the two legs of the V should be about 60° to permit the rods to enter and leave the dip tank while hanging in vertical position. This is important. Equally important, the speed of the conveyor should be regulated so as to equal the rate of flow of paint from rods. This will be determined by the viscosity of the paint. The higher the viscosity the slower the conveyor speed should be, and vice versa.

The length and width of the dip tank should be small in order to expose a minimum of paint to the air. This will reduce solvent evaporation. By this method you should have little if any dripping of enamel from the rods after they leave the dip tank. Sufficient flash (air drying) time should be allowed after the rods are dipped before they enter the oven to bake the paint.

Now for masking the threaded ends of the rods to prevent paint from contacting these areas. One threaded end (the one to be at the top) could be screwed into a bored and tapped metal plug connected to a hook by which the rod is suspended from the overhead conveyor. The level of the enamel in the dip tank should be maintained so that it will extend to the underside of the tapped plug. Of course, the level of the enamel in the tank could be high enough to submerge the tapped plug, but in this case it would be necessary to strip the plugs of paint at regular intervals.

For masking the lower ends of the rods, I suggest using a strippable or peel-off coating which can be applied automatically by conveyor dipping—or the temporary coating could be applied with the rods suspended in multiple in a rack and vertically dipped by a power dipping machine. For conveyor dipping this strippable coat-

Build Your Own Ovens
EASY AS BUILDING WITH BLOCKS
With driQuik
Infra-Red Interlocking Sections
Any shape, any size oven design can be erected by your own personnel without special equipment quickly at LOW COST. Intense even field of deep penetrating heat from infra-red rays that speeds up your production, reduces your operating costs, makes you independent of outside temperature or humidity variations. Dark glareless heat energy in an even blanket without hot or cold spots.
NO BULBS OR SOCKETS TO BURN OUT
Low maintenance cost because sections have ceramic generators that are immune to shocks, vibration, spattered moisture, rough handling. Write today for literature giving complete details.
VARIABLE HEAT CONTROL
of the entire or any part of the oven at the turn of a dial, ranging from zero to 100% of rated power.
Ovens Any Size or Shape
driQuik DIVISION
DRY CLIME LAMP CORP. Greensburg, Ind.

ing material will be in a shallow dip pan mounted on an adjustable platform so that the pan can be raised or lowered. It can be adjusted to coat only the threaded area of the rod. The threaded ends of the rod would be dipped into the peelable coating material by means of a very slight U-dip in the conveyor.

Naturally this adjustable dip tank should be located some distance from the paint dip tank so that the peelable coating material will have time enough to set-up and dry before it is submerged in the paint. The peelable coating on the threads can be —in fact, should be—thin; a heavy build-up of strippable coating at the lower ends of the rods would obstruct drainage and the run-off of excess paint right after the dipping operation.

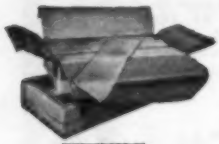
Later, after the paint is dry on the rods, the strippable coating can be removed manually, or the threaded end of the rod could be revolved in contact with a power-driven fiber wheel.

Another method, perhaps simpler but more wasteful of paint, would be to spray the rods. To support the rods and at the same time shield their threads from paint, you could arrange them like rungs of a ladder but closer together, with their threaded ends projecting into easy-fit holes of parallel bars of wood. The wood pieces might be one to two inches thick, two to three inches wide and perhaps 24-in. long. The size should be such as can be handled conveniently when the rods are inserted in these simple fixtures for spraying on a turntable.

Holes would be drilled into the edges of these wood strips or bars deep enough to cover the rod threads, and the holes might be spaced 1½-in. or less apart. In other words, looking at one upturned edge of a bar of

For Dust Free Finishes!
BOND TACK CLOTH

IN ROLLS
Cut off any size piece to use as needed.



IN BULK
Cut and folded. Ready to use.

STAYS SOFT AND TACKY
A SPECK-FREE FINISH EVERYTIME

Now Available in Rolls or Cut Bulk—White or Gold.
In Three Different Types of Cloth

Get your Tack Cloth packed just the way it's easiest for you to use . . . either in 150 yard rolls of 36" wide cloth or in handy cartons . . . 100 or more Tack Cloths to the carton.

No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up!

The Cut Bulk size is 18" x 36" . . . folded to 4½" x 18" for ease of handling. ALL BOND TACK CLOTH is **Spontaneous Combustion Proof, Lint-Free and Wax Free.** Gives a sparkling speck-free Finish every time. Clean and sanitary. No waste.

TRY THEM and COMPARE RESULTS.
Samples Gladly Sent Upon Request.

BOND CHEMICAL PRODUCTS CO.
"The Tacky Wiper Specialists"
2641 N. CLYBOURN AVE. CHICAGO 14, ILLINOIS

Also Individually Packed in Glassine Envelopes—144 to the Carton

A Warranty of Satisfaction in Every Carton

wood, you would see a row of center holes each say 1-in. deep. The threaded rods would be set into these holes and another bar of wood with identical holes in its edge would be positioned to cover the other ends of the rods. You would need several sets of drilled wood bars.

Your operator would adjust his spray gun to produce a narrow spray, and he would follow along spraying one rod after another until all rods in a rack are sprayed; then he would turn the rack over and spray the other side of each rod. Then the rack would be placed aside for the paint to dry and so on.—*M. C.*

Corrosion Resistant Materials

An 8-page (8½x11-in.), 2-color Bulletin R-1, published by U. S. Stoneware, Akron 9, Ohio, describes and illustrates the use of protective coatings, linings, plastic tubing, putty, cement, etc., for corrosive resistant purposes in industry and elsewhere.

Machine Tool Painting

A customer of ours—a manufacturer of very big machine tools—for whom we are building a spray booth, has seen, during a visit to the "Cincinnati" works, how they treat the several parts of their machine tools before assembling. They use a special prime coat in order to protect the parts against rust, and have a white surface for signing the following operations on it, etc.

Could you give us some idea of the material they use for this primer and the paint maker?

If possible we would like to know the complete cycle of finishing too, after assembling. — *E. A., Milano, Italy.*

I have recently written an article on painting heavy machine tools such as presses and shears at the Cleve-

land Crane & Engineering Co., Wickliffe, Ohio. This company uses the following system:

After grinding and smoothing and machining operations, shear and press frames are sprayed with a penetrating rust preventive solution. This coating is allowed to dry for a minimum of 24 hours.

Then the machines are brought into the assembly shop where a synthetic resin base primer (green) is applied. This coat will air dry sufficiently in about 30 minutes so that assembly work may start.

After assembly, the machines are washed with solvent to remove oil, grease and finger marks. Then the machines are sprayed with a synthetic-resin-base enamel. Different parts of the machines are coated in various colors. For instance, the frame is green; yellow is applied to all working parts, and orange on all electrical controls. These are all air dry enamels and they dry dust free in about 30 minutes.

I do not know from whom this company buys the rust preventive solution . . . The air dry synthetic enamels may be obtained from most of the advertisers in this magazine.—*P. C. Bardin, Associate Editor.*

Sears Technical Appointments

Mr. G. A. Nichols, technical director of Sears, Roebuck & Co.'s Central Paint Research Laboratories, announces recent appointments to his staff.

Mr. Christian W. Johnston, a graduate of Columbia College, with several years of postgraduate work at Princeton and Polytechnic Institute of Brooklyn, joined Mr. Nichols' staff as resin research director.

Mr Oliver E. Vanosse, a graduate of the University of Southern California with a B.S. degree in chemistry and many years of trade sales experience on the West Coast, joined the Central Laboratory staff in June, 1955.

These men will make a valuable contribution to the technological progress of Sears' paint and resin factories.

AGATEEN

THE SYMBOL OF QUALITY

Famous for ADHESION DURABILITY, MILEAGE.

No samples.
Small trial orders accepted.

Agate Lacquer Mfg. Co., Inc.
Serving industry since 1927
11-13 43rd Road
Long Island City, N. Y.
Stillwell 4-0660-1

AGATEEN
THE LAST WORD IN QUALITY

Let us tell you about our . . .

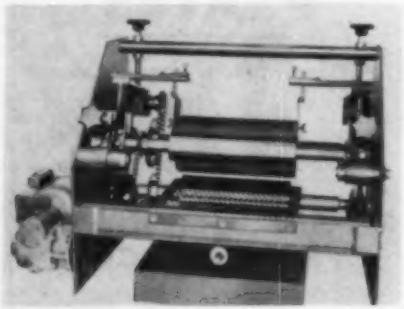
GRAINING PLATES

• Widely used by leading manufacturers for reproduction of wood grains on wood, metal, hard-board and plastic surfaces.

AMERICAN RICHWOOD PRODUCTS CO.
Graining Plate Division
104 E. Mason St. Milwaukee 2, Wis.

Laboratory Roller Coater for Testing Coatings and . .

A new laboratory roller coating machine is announced by Gasway Corp., 6463 N. Ravenswood Ave., Chicago 26, Illinois. The machine is similar to Gasway's line of regular production model rollercoaters, except that it is smaller and is not equipped for high production operation. The machine will competently reproduce any desired coating in order that accurate tests can be made. This makes it possible for manufacturers to perfect coating materials in the laboratory rather than being forced to do experimental work in the field.



It's 30¼-in. wide; 18-in. deep, 27-in. high. Adjustable to take stock up to 1½-in. thick.

The coating roll is made of steel which has a rubber covering; it measures 6-in. in diameter and is 12⅞-in. long, large enough to handle 12-in. work samples. It also has a 3-in. steel paint metering roll and a 4½-in. chrome-plated backup roll. Paint is transferred to the work by means of the rubber covered coating roll. A ¼-hp. motor and speed reducer gives a machine operating speed of 30-ft. per minute. Chain and sprocket drive gives smooth transmission of power required to get a smoothly finished coat. Self-aligning ball bearings are used for the rolls to insure accuracy.

For more data, circle 1 on colored card.

Water Wash Spray Booth Is Semi-Elevated

M & E's new semi-elevated water wash spray booths are designed specifically for all production spraying. Improved design affords maximum protection against fire and explosion hazards.

Has new efficiency and safety features.

The wash chamber is elevated above the dry section of the booth. A heavy down flow of water falling on the back wash curtain creates a filtering point of entry through which all paint particles must attempt passage before reaching the

principal wash action process of the water chamber section. Through this process, much of the paint residue is knocked down and safely contained within the water reservoir tank.

For further information, write C. E. Andrews, M & E Mfg. Co., Dept. S-318, 2571 Winthrop Ave., Indianapolis, Ind.

For more data, circle 2 on colored card.

Electrostatic Spraying of Plastisol on Baskets

The successful electrostatic spray-coating of vinyl plastisols on fabricated wire baskets, dish drainer racks, display racks and other wire goods on a production-line basis, is announced jointly by Scientific Electric, Garfield, N. J., designers and manufacturers of high frequency and high voltage equipment, and United Chromium Division of Metal & Thermit Corp., metal finishing specialists.

Electrostatic spraying of plastisol is more than twice as fast as conventional dip-coating; it eliminates plastisol wastage due to "running", reduces the intermittent handling ordinarily required in dip-coating, and produces an excellent coating in terms of uniformity and appearance. . . . The operation is conveyorized; the actual spraying is automatic.

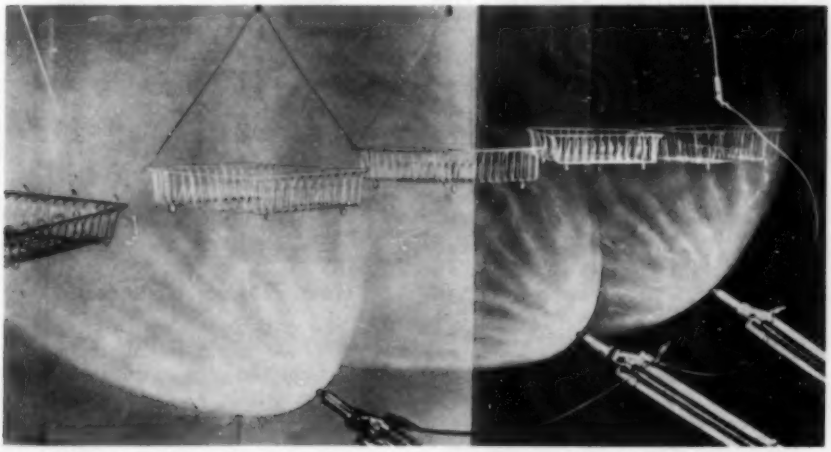
The process makes use of "Ionic Guns" with newly developed "Atomic Nozzles" and powered by a 140-K.V.P. ionic high potential power supply to spray an ionized "mist" of plastisol around the object to be coated. The "mist" is able to reach and deposit evenly over the entire surface —inside and out—of intricate wire goods. The equipment is an adaptation of Scientific Electric's line of ionic high potential spraying equipment. The plastisol was specially formulated by United Chromium for electrostatic spray-coating.

For more data, circle 3 on colored card.

Colors Aluminum Castings

A new 8-door stationary fixture finishing machine, designed primarily for coloring of aluminum castings, is announced by Roto-Finish Co., Kelamazoo, Mich.

For more data, circle 4 on colored card.



Electrostatically spraying a coating of vinyl plastisols on fabricated wire baskets.

NEW! DIFFERENT!

WOL-WAX CONCENTRATE

A rubbing lubricant in concentrated paste form that eliminates the use of rubbing oils, oleum spirits, etc. Used with steel wool or any other abrasive such as pumice stone, rotten stone, or wet or dry sandpaper.

- Wipes off easy!
- Wipes off dry!
- Leaves no smear!
- Slick to the touch!
- Helps protect finish!
- Contains no silicone!
- No fire hazard!
- Non-toxic!
- Better adhesion on final edge touch-up!

STAR CHEMICAL CO., INC.

Main Office
9830 Derby Lane
Westchester, Illinois

Dallas Branch
2619 S. Ervay St.
Dallas, Texas

You Reduce Your Masking Costs When You Use BRADY PRE-CUT MASKS

You get uniform, accurate masking every time with Brady Pre-Cut Masks. Use for spraying, sand blasting, stenciling. Made to meet your requirements. Come on handy Blue Streak Dispenser Cards or folded liner for fastest peel-and-apply time. Hundreds of shapes and sizes in stock. Specials made to order. Free usable samples and literature. Write:

W. H. BRADY CO.
Manufacturers of Self-Sticking Industrial Products
762 W. Glendale Ave., Milwaukee 12, Wis.
EST. 1914

Semi-Automatic Spray Machine

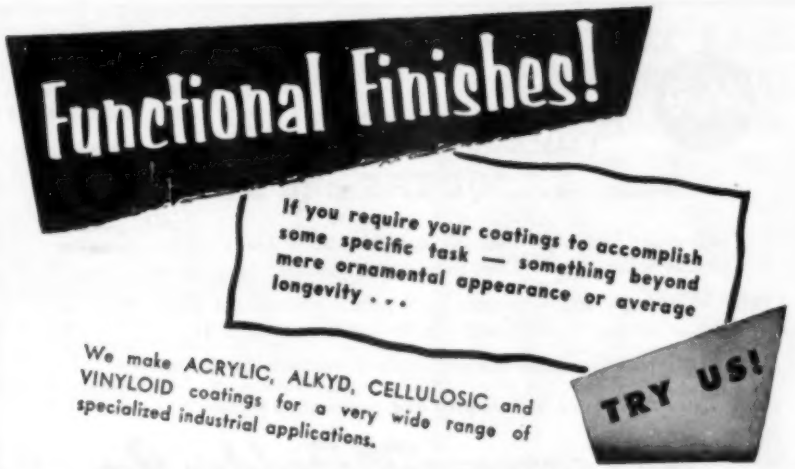
Pressure of a button rotates the work and time-sprays it in a small spray booth which has a built-in exhaust fan and power mechanism. Adjustments are made quickly and easily to take different work. This production machine is safe, easy to operate and easy to clean. It is a product of Eclipse Air Brush Co., 400 Park Ave., Newark 7, N. J.

A semi-automatic sprayer for small parts.

For more data, circle 5 on colored card.

New Plasticizer Offered

A new plasticizer which improves nitrocellulose formulations, such as those used to coat wood, paper, metals and cloth, has been developed by Eastman Chemical Products, Inc. of Kingsport, Tenn. Comparable to dibutyl phthalate in many respects,


Functional Finishes!
If you require your coatings to accomplish some specific task — something beyond mere ornamental appearance or average longevity . . .
We make ACRYLIC, ALKYD, CELLULOSIC and VINYLOID coatings for a very wide range of specialized industrial applications.
TRY US!

• **THE VARNISH PRODUCTS COMPANY**

5206 Harvard Avenue, Cleveland, Ohio

the new plasticizer is superior to the older compound in several properties of importance to potential users.

To be known as Plasticizer 84, the new plasticizer provides nitrocellulose lacquers with greater permanence, better heat sealabilty and outstanding cold check resistance.

Nitrocellulose lacquers incorporating the new plasticizer are comparable to those made using dibutyl phthalate in all other significant properties, such as low temperature flexibility, print resistance, blocking resistance, exudation and hardness.

For more data, circle 6 on colored card.

"Lab Metal" Cold Paste

"Lab-Metal" is an "improved" cold metal solder, according to its manufacturers, Alvin Products, Inc., Worcester, Mass. An aluminum-based compound, Lab-Metal is a moldable metal in paste form. Upon drying it hardens to form a strong, permanent bond to metal, wood plaster, glass, or plastic.

Lab-Metal will spread smoothly and evenly with a putty knife.

The aluminum pigment, when compounded with the resin, dries to form a surface that will not shrink, crack, chip, or peel. These surfaces may be covered with paints, primers, lacquers or enamels without fear of blistering. The solder itself may be filed, drilled, chiseled, tapped or ground. It can be sanded to a smooth feather edge.

Lab-Metal will withstand temperatures as high as plus 350°F. and as low as minus 40° F. It has a tensile strength of 650-lbs. per square inch, and a Rockwell E. hardness between 4 and 8. Lab-Metal is unaffected by mild acids, alcohols, toluene, ether, petroleum and petroleum solvents.

For more data, circle 7 on colored card.

Mac's FASHION LACQUERS and SEALERS

Are especially formulated for the light blonde or bleached finishes. They are "water white" and do not impart any color to the surface.

They have high solids content and produce excellent body. They will not mar or scratch readily and can be sanded in one hour.

Mac's Cristalite Lacquers are available in various sheens.

Write for samples and descriptive folder.

The Lawrence-McFadden Co.

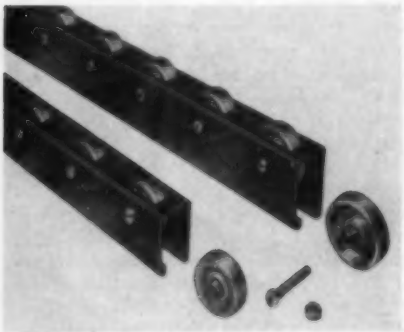
Headquarters for Fine Finishes Since 1875

"Our 80th Year"

7430 STATE ROAD **PHILADELPHIA 36, PA.**

New Gravity Wheel Conveyor

A new type of lightweight gravity wheel strip conveyor is now offered by The Rapids-Standard Co., Inc., Grand Rapids, Michigan. Called Rapistan Flow Track, the new product is available in two standard sizes, each with a choice of three wheel spacings for handling a wide range of materials.



Wheel bearings are lubricated for life.

An interesting feature is the method of wheel mounting to give 2-point axle support that provides maximum resistance to bending under loads. Hug lock nuts hold wheel assembly securely, and wheel bearings are lubricated for life to roll smoothly for years without maintenance.

A standard 10-ft. section, with supports on 5-ft. centers has a distributed load capacity of from 400 to 750-lbs., weighs only 15 to 24-lbs. for easy set-up and storage.

More information on the new Rapistan Flow Track can be had by writing The Rapids-Standard Co., Inc., Dept. FT, 342 Rapistan Bldg., Grand Rapids, Michigan.

For more data, circle 8 on colored card.

New Poly-Amide Epoxy Finish

"Poly-Ep" Platon, a new finish for which many unusual qualities are claimed has been introduced by Minnesota Platon Corp., Pipestone, Minn.

One coat "Poly-Ep" Platon sprayed directly on aluminum sheet and foil, and air dried. Foil crushed and sheet bent after finishing, without cracking or crazing shows flexibility and adhesion of Platon to metal.

This new finish can be applied directly to any clean metal surface without a prime coat, has exceptional adhesive qualities, has an extremely hard surface, yet it is flexible and will not crack or chip under impact or bending.

"Poly-Ep" Platon is a two component finish that is mixed in equal parts as required. When mixed it has a very low viscosity which is maintained in the container for several hours with little change yet when applied, it air dries dust free in 30 minutes and can be handled in two hours. Forced drying for 30 minutes at 130° F. produces a hard, free sanding surface. It is reported that an independent research laboratory test shows "Poly-Ep" Platon to exceed the Federal paint specifications TTE 48 7B Olive Drab Rust Inhibitive Enamel requirements by from 200% to 400%.

"Poly-Ep" Platon is available in clear and colors, including metallic, in gloss or satin finish. For complete information and technical data write to Mr. L. E. Shaffer, President, Minnesota Platon Corp., Dept. IF., Pipestone, Minnesota.

For more data, circle 9 on colored card.

DETROIT "TAC" RAGS GIVE APPLIANCES THAT "MILLION DOLLAR LOOK"

DETROIT "TAC" RAGS are an absolute necessity for cleaning any metal, wood or plastic surface before painting. Removes all dust, lint and sanding particles. Order today through your supplier.

STANDARD OF THE FINISHING INDUSTRY SINCE 1934

DETRO MFG. & SALES CO., INC., CULVER CITY, CALIFORNIA

AROUND THE CLOCK 365 DAYS

You can depend on OP-AL

APPROVED: CSA TESTING LAB'S.

Electric Knife Heater

OP-AL

THE OP-AL ELECTRIC AND MANUFACTURING COMPANY

809 N. SENATE AVE. • INDIANAPOLIS 7, IND.

Phone: Melrose 4-0250

Conveyorized Dip Coating and Drying Equipment

The equipment illustrated is a 2-dip system for the application and drying of a primer and a finish coat to small parts at a high production rate. This setup produces a coating of uniform thickness that is drain-free and tear-free—and dries in an atmosphere independent of ambient humidity and temperature.

The engineering factors for these results are the automatically controlled withdrawal angles and withdrawal speeds, and the drying in a forced-draft controlled atmosphere.

This dip coating technique can be used for the application of protective or decorative coatings of lacquers, enamels, paints or varnishes, as well as various types of plastic coatings.

The specific unit illustrated is 13-ft. high and occupies 28x10-ft. of floor space. Special chain attachments permit one operator to easily load and unload work carrying racks on the internal dual chain conveyor. Lift doors give ready access to removable dip tanks for servicing. Recirculation of coating materials in the tanks provides proper dispersion of pigments. Overflow drains, part of the recirculation system, assure maintenance of constant level and removal of trapped air.

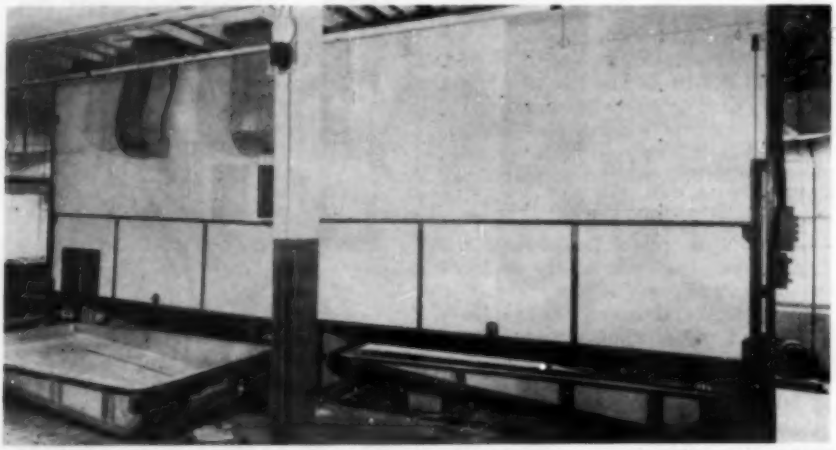
Modification of the basic design principles to meet special applications can be readily set up. Engineering services are available to facilitate equipment and plant layout including automatic work handling. . . .

For further information, contact Applied Engineering Associates, 1952 Flushing Ave., Brooklyn 37, N. Y. Telephone, Evergreen 6-9782.

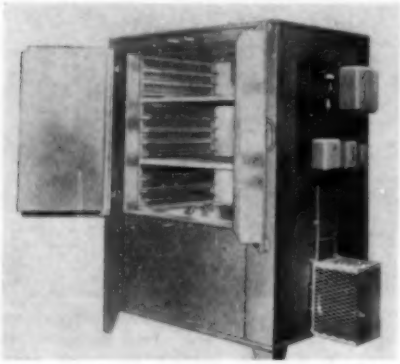
For more data, circle 10 on colored card.

Improved Batch Type Oven Closely Controlled

The Carl Mayer Corp., 3030 Euclid Ave., Cleveland 15, Ohio, has recently added a new line of portable industrial ovens for use in closely controlled production and laboratory work. They are available with either horizontal or vertical air flow. A high pressure motor driven blower



Side of conveyorized dip coating equipment with lift doors raised to show dip tanks. Baking area is above dip tanks. Loading and unloading of fixtures is at right (around the corner).



Has indicating temperature control.

propels the heated air in a definite air-flow pattern through the work chamber. This prevents any disturbance due to radiant heat, and assures temperature uniformity.

Other features include no metal-to-metal contact, high and low heat switch for close control and quick recovery, electrical interlock for turn-off of heat in case of blower motor failure, and Inconelsheathed "Lifetime" heating elements.

Complete details are given in Carl Mayer Corp. bulletin No. 9-54.

For more data, circle 11 on colored card.

Portable Lamps Light Way to Industry's Problems

Lighting engineers agree that it is often necessary to supplement general industrial lighting systems with a safe, easy to handle method of temporary illumination for hard-to-reach areas and troublesome "dark spots." In many cases portable lighting has proved itself to be less expensive and more convenient than standard fixtures.

The Day-Ray Products Inc., South Pasadena, California, manufacturer of portable fluorescent work lamps,

CUT FINISHING COSTS THROUGH INCREASED PRODUCTION

PRODUCT DEVELOPMENTS BY C·M CONFORMING MATRIX

MASK WASHING MACHINES
50% faster than any other make. Cut solvent consumption. Avert production delays due to damaging of masks by hand scrubbing.

SPRAY PAINTING MASKS
A competent engineering staff will counsel with you on the most efficient technique for handling your particular requirements.

AUTOMATIC MACHINES
Increase production hundreds to one over hand methods. Reduce labor costs. Eliminate need of experienced workmen.

CLAMPS AND FIXTURES
Positive pressure and exact registration of the part in the mask. Reduce rejects. Free both hands for productive movements.

Send for Free Literature Now!

CONFORMING MATRIX CORP.
331 Toledo Factories Building Toledo 2, Ohio

SILK SCREEN PROCESS
COLORS
EQUIPMENT
SCREENS • SUPPLIES

Also:
- STANDARD SECTIONAL BELT CONVEYORS
- AUTO-RACK (Wicket Dryers)
- DRYING RACKS
- ROLLER COATERS
- FLOCK and ADHESIVES

ADVANCE PROCESS SUPPLY CO.
1442 WEST KINZIE STREET
CHICAGO 22, ILLINOIS

Write for FREE instructive catalog

BOOKS
On Finishing Available

"ORGANIC PROTECTIVE COATINGS," (386 pages) $7.50
"PROTECTIVE COATINGS FOR METALS," (643 pages) 12.00
"ORGANIC COATING TECHNOLOGY," Vol. 1 ..... 10.00
"ALUMINUM PAINT & POWDER" (219 pages) 4.50
"FLOW COATING," (296 pages) new 8.00
"CHEMICAL FORMULARY" (Vol. IX) 7.50
(Preceding Volumes also available, same price)
"FINISHING METAL PRODUCTS"—2nd edition (352 pages) 6.50
"PRACTICAL FURNITURE FINISHING" (112 pages) 1.75
"FURNITURE FINISHING" (543 pages) 5.00
"SPRAY PAINTING"—Industrial and Commercial (160 pages) 2.50
"COLOR DECORATION AND DESIGN" (200 pages) 3.00
"THE MIXING OF COLORS AND PAINTS" (292 pages) 3.00
"WOOD FINISHING" (361 pages) 3.00
"MODERN POLISHES AND SPECIALTIES" (315 pages) 7.50
"GRAINING" — Ancient and Modern (224 pages) 5.00
"SCREEN PROCESS METHODS OF REPRODUCTION" (252 pages) 4.00
"THE SCIENCE OF WRINKLE FINISHING" (204 pages) 5.00
"THE SCIENCE OF MODERN WOOD FINISHING" (386 pages) 7.50
"PAINT & VARNISH TECHNOLOGY" (500 pages) 8.00
"METALLIC AND NON-METALLIC COATINGS FOR GRAY IRON" (76 pages) 1.75
"PAINT FILM DEFECTS — Their Causes and Cure" (544 pages) 12.00
"INDUSTRIAL SOLVENTS" (764 pages) 12.00
"FINISHING MATERIALS AND METHODS" (320 pages) 4.00
"STEWART'S SCIENTIFIC DICTIONARY (Fourth Edition) 10.00
"PROFESSIONAL FURNITURE PATCHING, REPAIRILNG and APPLIANCE TOUCH-UP," (90 pages) 3.50

Cash Must Accompany Order—
Send for Descriptive Circular

INDUSTRIAL FINISHING
1142 N. Meridian St. Indianapolis 4, Ind.

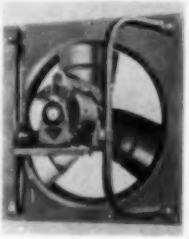
This is only one of many uses for portable lights. The lights are often hung in an area to increase lighting for close work.

has been in close contact with plant users throughout the country to establish new uses, new improvements needed in this field. It had been generally known that the portable lamp required several basic features to conform to the detailed demands of industry. It was important that the light be glare-free for the job at hand and for the comfort of others in the area. In many cases the light must be perfectly insulated, water and vapor tight to conform to specifications of safety engineers for use in hazardous locations. The unit had to be cool, easy to handle and easy to hook-on where needed.

For more data, circle 12 on colored card.

Balanced Exhaust Fan

A ruggedly constructed, heavy-duty propeller type exhaust fan, designed specifically for industrial installations, is now offered by American Blower Corp., Detroit 32, Michigan.



Designated the Model K Ventura Fan, the new unit is available with 2-speed or

BEHLEN MANUFACTURES . . .

Everything For Woodfinishing

- **PORE-O-PAC** fillers & stains
- **SOLAR LUX** non-grain raising stains
- **PENOLEUM** oil wiping stains
- **FACTUAL FINISH** lacquers & sealers
- **QUALASOLE** America's leading padding lacquer

BUY DIRECT FROM THE MANUFACTURER
BUY BEHLEN . . . BUY BETTER

H. BEHLEN & BRO., INC.

Quality Products Since 1888

8 CHRISTOPHER ST., NEW YORK 14, N. Y.
West Coast Branch: 1755 Berkeley St., Santa Monica, Calif. Factory: Kearny, N. J.

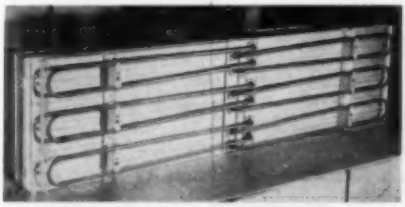
constant-speed direct drive totally enclosed motors. A large range of sizes are offered. The new design will operate against static pressures up to 5/8-in. The streamlined inlet of the Model K fan permits a free flow of air with minimum resistance in exhausting smoke, fumes and other contaminates. Both motor and fan wheel are balanced perfectly to run without vibration.

For more data, circle 13 on colored card.

Aluminized Steel Reflectors Back Up Radiant Heat Units

New type intense Chromalox Far-Infrared Electric Radiant Panels manufactured by Edwin L. Wiegand Co. of Pittsburgh, Penna., are equipped with reflector panels of Rigid-tex Aluminized Steel in the 2FL pattern. The fluted pattern insures extreme rigidity at high temperatures and the bright aluminum surface gives high reflected energy. The reflector panels are easily removed for cleaning.

This 3-dimensional, design-strengthened metal is produced in more than 40 standard patterns for strength, beauty and utility in all ferrous and non-ferrous metals, solid or perforated, sheet, strip or coil. Original designs can be custom-made for particular requirements of users. A variety of satin, electro-polished,



Reflector panels, removable for cleaning.

PROTECT LUNGS *against*
PAINT SPRAY – DUST – FUMES

DUPOR No. 4 RESPIRATOR has big double filters for easy breathing and greatest filtration! Soft rubber face mask gives airtight fit. Patented DUPOR valves bring in clean air—throw off breathed air! Weight 4 oz. Economical! Costs only $2.00 postpaid. Order Now!

H. S. COVER, South Bend, Indiana

LANLY
FINISHING OVENS
THE LANLY COMPANY • 760 PROSPECT AVE
CLEVELAND, OHIO

Write for Information & Literature.

painted and highlighted finishes are readily supplied.

For complete information, write to the manufacturer, the Rigidized Metals Corp., 809 Ohio St., Buffalo 3, New York.

For more data, circle 14 on colored card.

Tack Cloth for Cleaning

The introduction of a new production tack cloth, designed for easy removal of lint, dust, abrasive grain, metal and paint particles in all finishing and refinishing operations, is announced by Permacel Tape Corp., New Brunswick, N. J.

Permacel 091, the new production tack cloth, is designed to pick up and hold foreign material so it doesn't spread or scatter. It is treated with a special impregnant.

The new cloths are spontaneous combustion proof. Permacel has prefolded each 18x36-in. cloth to a convenient hand size pad, which is packed in an individual glassine envelope. The cloths are packed 12 per bundle and 12 bundles per carton.

For more data, circle 15 on colored card.

"Woodtape" Plywood Edging

To put a durable matching edge finish on the edges of plywood being fabricated or assembled into furniture, cabinet work or wood fixtures, Woodtape has been developed by The Elliott Bay Lumber Co., 600 W. Spokane St., Seattle 4, Washington. Thicknesses are 1/50 to 1/64-in.; widths ¾ to 1⅜-in.; lengths 48 to 96-in.; available in several cabinet woods.

Covering plywood edges with "Woodtape."

The back of this Woodtape has a factory applied thermo-setting adhesive, ready for use by a pressure sensitive method of application to panel edges. A special solvent is furnished; this is brushed on the back of the tape, the tape is pressed into position, and an electric hand iron is moved along against the face surface to complete the permanent cementing of the thermo-setting adhesive. No forms or clamping equipment are required for applying this thin adhesive coated natural wood tape to curved edges. Edges must be clean and reasonably smooth, of course, before the decorative tape is applied.

For more data, circle 16 on colored card.

New Chemical Prevents Rust

The Penetone Co. has developed a new chemical, called Antiox, which combats all forms of rust and corrosion. Metals such as iron, aluminum, zinc and magnesium, which are easy prey to rust and corrosion, can now be protected inexpensively.

Unlike messy oils, greases, tacky waxes and heavy, black bituminous paints, this new chemical is not greasy and is clean to use. It deposits a dry, invisible, thin protective film on all metals.

For complete protection in all situations, Antiox comes in four different forms, Type-C, Type-D, Type-R and Type-S. For more information, write to The Penetone Co., Box IF-855, for full information and free samples.

For more data, circle 17 on colored card.

New Aluminum Sealer Prevents Corrosion; Good Paint Base

The Chemical Corp., Springfield, Mass., announces that its new Luster-On Aluminum Sealer (222-M) produces a chromate film on aluminum that provides excellent corrosion

REPRINTS AVAILABLE

"Industrial Paint Samples 'Big Deal'," price 10 cents per copy.
"Cleaning and Conditioning Metal Surface for Coatings", price 20 cents per copy.
"Tumble Finishing," price 10 cents per copy.
"Flow Coating as a Means of Paint Application," price 10 cents per copy.
"A Method Engineer Analyzes Paint Selling," price 10 cents per copy.
"Flock (What it is, its appearance, its uses both for utility and decoration)", price 10 cents per copy.
"Filler, The Theory and Technique of Application", price 10 cents per copy.
"Finishing System for Magnesium", price 10 cents per copy.
"Automatic Viscosity Control for Mass Production Finishing", price, 10 cents per copy.
"Paint Users' Tests: Be Fair; Get Results", 10 cents per copy.
"Spray Problems With Hot Lacquers", price 10 cents per copy.
"Abrasives, Their Use in Surface Preparation", price 10 cents per copy.
"What Makes Our Finishing Cost So High?", price 10 cents per copy.
"Use Push Button Spray to Touch Up Marred Finish", price 10 cents per copy.
"What's the Big Plus Value in Selling Finishes?", price 10 cents per copy.
Automobile Finishing, "The Ford Finish", price 10 cents per copy.
Piano Finishing, "Gulbransen's Piano Finish", price 10 cents per copy.

INDUSTRIAL FINISHING Magazine
1142 N. Meridian, Indianapolis 4, Ind.

protection and can serve as a paint base. The new sealer replaces anodizing where hardness is not a prime factor; has salt spray resistance to 600 hours.

Luster-On Aluminum Sealer is easily applied in one dip at room temperature; it adheres well and does not leach easily. It can be dyed in many attractive pastel colors. Meets government specification MIL-C-5541. Literature available.

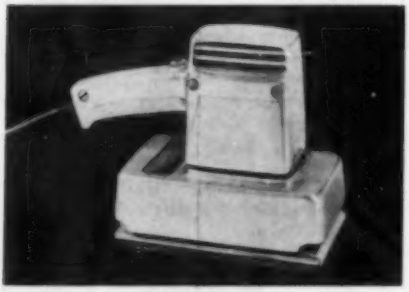
For more data, circle 18 on colored card.

"Orbital" Finishing Sander

A new finishing sander that has orbital motion, is offered by Porter-Cable, 61 Exchange St., Syracuse 8, New York.

The Model 145 Finishing Sander has three importance features. In the first place, the orbital motion of the sanding pad simulates the circular motion of hand sanding which means that the operator can sand with, against, and across the grain without gouging or rippling. Secondly, it is driven by a husky universal motor (covers large areas quickly for fine finishing). It is not an underpowered "vibrator". Third, it is a precision built professional tool whose streamlined design allows sanding close to corners and in other cramped spaces.

For more data, circle 19 on colored card.



Its sponge rubber pad permits sanding of many curved and irregular shapes.

Pressure Sensitive Corner Pads Protect Finished Sheet Metal

By-Buk corner-pads are pressure-sensitive cushions designed to prevent scratching and gouging of finished surfaces during shop handling.

They are made in convenient form for quick and easy application to each corner of metal sheets at the time they are removed from the crate or bundle, and to new corners that are formed as fabrication progresses.

They are made of very tough and thick, treated paper stock having unusually high resistance to piercing. Aggressive high-tack pressure-sensitive adhesive holds them securely in position during handling operations.

Free samples to industrial consumers and jobbers upon request. By-Buk Co., 4314 W. Pico Blvd., Los Angeles 19, California.

For more data, circle 20 on colored card.

Green Is Made Mgr. of Ditzler

John F. Green has been appointed general manager for Pittsburgh Plate Glass Co.'s Ditzler Color Division in Detroit, Michigan.

Prior to his appointment, Mr. Green had served since 1954 as assistant general manager for the Detroit division which produces finishes for the automotive industry. He has been associated with Pittsburgh Plate since 1933 when he joined the Oakland, California, unit of the Pacific Coast Paint Division. In 1940, he was assigned to the Milwaukee Paint Division as assistant supervisor of automotive sales.

More Vinyl Acetate Capacity

A $2,000,000 addition to Du Pont's vinyl acetate capacity here was announced recently by Ross Hare, manager of the company's Niagara Falls electrochemicals plant. Vinyl acetate is an intermediate in the manufacture of Du Pont's "Elvanol" polyvinyl alcohol and "Elvacet" polyvinyl acetate emulsion.

Principal uses for polyvinyl alcohol and polyvinyl acetate emulsion are in the manufacture of adhesives, textile sizes and finishes, paper sizes and coatings.

For Your Convenience

Use INDUSTRIAL FINISHING magazine's "Reader Service" return cards to obtain further information on products described and illustrated in the "Materials; Supplies; Equipment" section which precedes this page; also, to receive manufacturers' literature — booklets, catalogs, circulars — as mentioned on the following pages.

It's simple and convenient for everyone. Just circle the corresponding numbers on reverse side of card below, print or type in your name and your company's name and address, detach and mail. No postage required.

Postage Will Be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
First Class Permit No. 1490, Indianapolis, Indiana

Industrial Finishing Magazine

1142 N. Meridian Street

Indianapolis 4, Ind.

Manufacturers' Literature

Please Mark Cards Correctly. Among the hundreds of Reader Service Cards returned, a few have no name or address; some we cannot read, and occasionally no mark is made to indicate what is wanted. Let's take time to mark the card you send correctly, please.—Editor.

Graining Plates of any pattern, size or shape (wood grain, leather, marble, fabric, etc.) for hand or machine graining. American Richwood Products Co., 104 E. Mason St., Milwaukee 2, Wis.

For more data, circle 21 on colored card.

Dip Spin Coating Machine is for completely coating small parts or articles (metal, wood, plastic, etc.) quickly, safely and without any mess or wastage of paint materials. Ronci Machine Co., 2 Atlantic Blvd., Centredale 11, R. I.

For more data, circle 22 on colored card.

"Push Button" Touch-up Spraying is quick, effective and easy, even for amateurs. The container is small enough to hold in your hand. Colors match appliances, automobile, toys, etc. The "Push Button" folder tells about it. Sprayon Products, Inc., 3075 E. 65th St., Cleveland 3, Ohio.

For more data, circle 23 on colored card.

Breathing Protection, where paint spray and solvent vapors are present, is provided by Dupor No. 4 Respirators. H. S. Cover, South Bend, Ind.

For more data, circle 24 on colored card.

Screen Process Supplies. Everything used in screen process work is shown in a new complete catalog offered by Advance Process Supply Co., 1442 W. Kinzie St., Chicago 22, Ill.

For more data, circle 25 on colored card.

Ovens to Dry Paint. For speed-up drying or baking of sealers, undercoats, primers and finish coats; conveyorized or otherwise. The Lanly Co., 760 Prospect Ave., Cleveland 15, Ohio.

For more data, circle 26 on colored card.

Pearl and Iridescent Finishes; what they are and how to use them to produce eye-catching finishes on all kinds of useful and decorative articles. Argenta Products Co., Eastport, Maine.

For more data, circle 27 on colored card.

Paint Mixer shakes the paint in its original container so it is thoroughly mixed quickly and with no exposure to air, dirt or stirring paddles. Miracle Paint Rejuvenator Co., 128 E. 10th St., St. Paul 1, Minnesota.

For more data, circle 28 on colored card.

Industrial FINISHING

October, 1955, Issue

READER SERVICE DEPARTMENT

Without obligation, please see that we receive further information and manufacturers' literature identified by the numbers circled on this card:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
89	90																				

Name.....*Title*.....
(PLEASE PRINT)

My company's name.....

Street Address.....

City.....*Zone*.....*State*.....

Speck-Free Finish. Tack cloths available in rolls or cut to size, in white or gold color, are a specialty of Bond Chemical Products Co., 2641 N. Clybourn Ave., Chicago 14, Ill. Information about their merits will be supplied by the manufacturer.

For more data, circle 29 on colored card.

Lacquer Finish. Major advantages are included in information offered by the Cellulose Products Dept., Hercules Powder Co., 928 Market St., Wilmington 99, Delaware.

For more data, circle 30 on colored card.

Infrared driQuik interlocking sections have lava-coated ceramic-type infrared generators which are immune to shock, vibration and moisture. Can be assembled into tunnels of any shape. driQuik Divn. of Dry Clime Lamp Corp., Greensburg, Indiana.

For more data, circle 31 on colored card.

Lacquer Thinners; "regular" and specially formulated to meet specific requirements. Potter Paint Co., Inc., Cortland, I. N. Y., and Cambridge City, Ind.

For more data, circle 32 on colored card.

Tack Rags are used to wipe (pick up and hold) the dust and lint (even what you don't see) from surfaces of products that are to receive a perfect mirror-like finishing job. Detro Mfg. & Sales Co., Inc., Culver City, Calif.

For more data, circle 33 on colored card.

Pre-Cut Masks, Every Shape. These time savers come on dispenser cards from which they can be peeled off and applied to areas to be masked for painting. Samples and literature offered by W. H. Brady Co., 762 W. Glendale Ave., Milwaukee 12, Wis.

For more data, circle 34 on colored card.

Quality plus Service is a pledge to users of finishing materials by the personnel at the new modern plant of Raffi & Swanson, Inc., 100 Eames St., Wilmington, Mass. (Specification coatings since 1925). A new brochure, "The Raffi & Swanson Story" will be sent on request.

For more data, circle 35 on colored card.

Degreasing Solvents; excellent for all vapor degreasing operations; safe to use; resists elements that break down solvents; formulated for cleaning aluminum, new alloys and combinations of all metals. Write for information about this solvent called "Blacosolv." G. S. Blakeslee & Co., 1844 S. Laramie Ave., Chicago 50, Illinois.

For more data, circle 36 on colored card.

Clear Lacquer Test. For two weeks a rubber band remained stretched over a silver plate surface coated with Nikolas clear lacquer, but it left no trace of discoloration. Try this test with a competitive material. G. J. Nikolas & Co., Inc., 2850 Washington Blvd., Bellwood, Illinois.

For more data, circle 37 on colored card.

Ideal Tack Rags are used prior to painting, to wipe off and hold dust, dirt, sand particles and lint too small to see, but which might leave a blemish or defect on the final coat of paint or finish. For more information, contact Ideal Chemical Co., 1499 Dean Drive, South Euclid 21, Ohio.

For more data, circle 38 on colored card.

Sanding and Finishing Wood. A 12-page (8½x11-in.) bulletin, bound in grained paper covers, describes and illustrates sanding wood furniture in the white, sanding between coats, rubbing and buffing. It is published by Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.

For more data, circle 39 on colored card.

IDEAL TACK RAGS
FOR A PERFECT FINISH
Bulk or Bagged
IDEAL CHEMICAL COMPANY
1499 Dean Drive, South Euclid 21, Ohio

Serving **THE SOUTHEAST**
- LACQUERS
- SEALERS
- FILLERS
- TONERS
- GLAZES
- PIGMENTED WIPING STAINS
- NGR STAINS

Complete Technical Service At Your Disposal
SNYDER BROTHERS COMPANY
Manufacturers of Quality INDUSTRIAL LACQUERS
P. O. BOX 548 — TOCCOA, GEORGIA

FLOW COATING BOOK

Mr. Zahn, the author of "Flow Coating", says that any product which can be dipped or sprayed can be finished by the flow-coat method. His new book contains **296 pages 5¼x7¾-in.; 13 chapters.**

The great range in new kinds of solvents now available, plus phenolic-base resin paints and vinyl type paints which have been so successful in the flow-coating method of application, presents endless possibilities for profit. The industrial user can now afford to pay a little more for better materials and profit by a higher quality product.

"Flow Coating" explains the various industrial painting methods such as: dipping, spraying, electrostatic, steam, roller coating, centrifugal, hand spraying, automatic dip and many others. Direct comparisons between flow coating and these methods are dealt with in detail.

Mr. E. A. Zahn has spent 25 years in research on industrial paints and application methods. He is the inventor of the Zahn Viscosity Cup, and has acted as consultant to many manufacturing concerns. In 1938 he received the Charles A. Coffin award for contributions made to the electrical industry. Mr. Zahn has been associated with General Electric for 25 years and is at present Organic Finishing Engineer at General Electric's Appliance Park, Louisville, Ky.

Price $8.00—Money Back Guarantee

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Dust Collectors (Uni-Wash). A 24-page Bulletin D-53-30 contains information and shows pictures of many industrial applications in which this equipment collects and disposes of dust effectively and economically, thereby keeping factory air clean. Newcomb-Detroit Co., 5753 Russell St., Detroit 11, Michigan.

For more data, circle 40 on colored card.

Discs Cut Through Masonry. A new 4-page bulletin, (A-1308 6-55) illustrated in color, describes the new "Niagara" line of masonry blades. The Carborundum Co., Niagara Falls, N. Y.

For more data, circle 41 on colored card.

Electric Pan-L-Heat Ovens. Various designs are illustrated along with a list of their merits, some cost figures, performance data, safety features, etc., in a 16-page (8½x11-in.), 2-color bulletin offered by Jensen Specialties, Inc., 9331 Freeland Ave., Detroit 28, Mich.

For more data, circle 42 on colored card.

Fillers, Stains, Sealers and Lacquer for finishing woods by any method or speed. James B. Day & Co., 1872 Clybourn Ave., Chicago 14, Ill.

For more data, circle 43 on colored card.

New Rubing Lubricant in concentrated paste form; used with steelwool, sandpaper or pumice stone; has many desirable features including speed and safety. Star Chemical Co., 9830 Derby Lane, Westchester, Illinois.

For more data, circle 44 on colored card.

Uni-Versal Coating for utility and luxury metal products in all metals. Excellent adhesion, highly resistant; air dry or bake; any color. United Lacquer Mfg. Corp., 1001 W. Elizabeth Ave., Linden, New Jersey.

For more data, circle 45 on colored card.

Padding Lacquer called "Qualasole", for use in finishing, refinishing and repair finishing fine wood furniture and cabinets. H. Behlen & Bro., Inc., 8 Christopher St., New York 14, N. Y.

For more data, circle 46 on colored card.

Automatic Spray Painting; Catalog AAE-9-55 illustrates and describes a variety of air finishing equipment suited to the exacting coating requirements of many kinds of products. Paasche Airbrush Co., 1917 Diversey Parkway, Chicago 14, Illinois.

For more data, circle 47 on colored card.

Flow Coating. Koch says, "If you dip it, you can flow-coat it better". Many installations have been made. Bulletin 8F-J7 tells you why. George Koch Sons, Inc., 10 S. 11th Ave., Evansville 4, Ind.
For more data, circle 48 on colored card.

Solvents, Oils, Waxes of high quality, in drums, tank trucks or tank cars from any one of 17 near locations. The Solvents & Chemicals Group, 2540 W. Flournoy St., Chicago 12, Ill.
For more data, circle 49 on colored card.

Blond, Natural or Stained Finishes on furniture and cabinets—sealers and lacquers for them, in gloss, satin or flat, are offered by V. J. Dolan & Co., Inc., 1830 N. Laramie Ave., Chicago 39, Ill.
For more data, circle 50 on colored card.

Acrylic, Alkyd, Vinyloid coatings for a wide range of specialized industrial applications. The Varnish Products Co., 5206 Harvard Ave., Cleveland 5, Ohio.
For more data, circle 51 on colored card.

School Furniture Finishes must be durable, flexible and still look clean and attractive after years of service. These and 12,000 other finishes formulated by DuPont are serving industry. E. I. duPont deNemours & Co., Inc., Finishing Division, Wilmington 98, Dela.
For more data, circle 52 on colored card.

Half Second Butyrate, for use in formulating clear lacquers such as are used on aluminum aircraft where resistance to moisture, salt spray, abrasion, gasoline, temperature changes, etc., are required. Eastman Chemical Products, Inc., Kingsport, Tennessee.
For more data, circle 53 on colored card.

Vapor Spray Degreasers. Small machines with big machine features. Include spray pump, switches, work rack and lid. Several sizes; gas, steam or electric heat. Baron Industries, 241 W. Ave. 26, Los Angeles 31, Calif.
For more data, circle 54 on colored card.

Cleaning; Phosphatizing, using steam guns. A low-cost method of treating large bulky equipment in preparation for painting. Brochure 54-122 tells about it. Neilson Chemical Co., 6562 Benson St., Detroit 7, Mich.
For more data, circle 55 on colored card.

Paint Processing Equipment (industrial washing, make-up air, hydro-whirl spray booths, ovens, etc.) for special high speed production—designed, engineered, fabricated and erected. The Chrysler installation is just one of many. Peters-Dalton, Inc., 17916 Ryan Road, Detroit 12, Mich.
For more data, circle 56 on colored card.

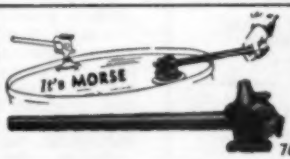
Fills Cans and Small Drums. New machine fills small containers and shows weight of contents. Works rapidly, easily, accurately and safely. The Vol-U-Meter Co., P. O. Box 54, Buffalo 16, N. Y.
For more data, circle 57 on colored card.

Graining Machines, Vertical and Flat. For graining sheet stock, panels or assembled cabinets rapidly and perfectly. Standard and special models available. plus an engineer to supervise installation and initial runs, Roto Finishing Systems, 1105 E. Glencoe Ave., Compton, Calif.
For more data, circle 58 on colored card.

PAINT MIXER

MIRACLE
PAINT REJUVENATOR
All paint restored to its original consistency without opening the can.
2 minutes per gal.
MIXERS AVAILABLE
¼ PT. to 55 GALS.
MIRACLE PAINT REJUVENATOR COMPANY
128 E. 10th St., St. Paul 1, Minn.
5 GAL. MODEL

Send NOW for this FIT-ALL
DRUM PLUG WRENCH
Instantly loosens, tightens 95% all plugs or bungs in steel drums.
Has 16" extra-strong steel tubing handle. Wgt. only 2 lbs.
Order 1 or more today!



THOUSANDS IN USE saving time, labor, accidents!
SATISFACTION GUARANTEED..... $3.60
Non-Sparking type.....$5.60
Plus Parcel Post
MORSE MFG. CO., Inc.
763 W. Manlius St., E. Syracuse, N. Y.

Firesafe Strippable Coating for coating spray booth interiors and anything else needing temporary protection from overspray, flying dust, etc. "Liquid Envelope" is a product of Better Finishes & Coatings, Inc., 268 Doremus Ave., Newark 5.
For more data, circle 59 on colored card.

Pyroxcote Plastisols; Organosols. An answer to many difficult finishing problems; plastic coatings thick or thin; colored or clear; spray or dip. Pyroxylin Products, Inc., 4851 S. St. Louis Ave., Chicago 32, Ill.
For more data, circle 60 on colored card.

Electrostatic No. 2 Spray System saves paint by automatically putting it all on the product, at just the desired thickness coating all over the surfaces being coated. More information available by writing to Dept. I of Ransburg Electro-Coating Corp., Barth & Sanders, Indianapolis 7.
For more data, circle 61 on colored card.

"Dustix" Tack Rags are offered, glassine bagged or bulk packed, proof from spontaneous combustion. For wiping visible and "invisible" dust from surfaces to receive a coating of finish. Modern 1st Aid Mfg. Co., 737 W. Randolph St., Chicago 6, Illinois.
For more data, circle 62 on colored card.

CVC QUALITY
Custom Finishes for METAL
Engineered to solve your problems. Write for full facts.
Quality Custom Finishes Since 1865
CINCINNATI VARNISH CO.
CINCINNATI 12, OHIO

PEARL ESSENCE
"Astralucine Brand"
Produces a high luster on a variety of finishes
Write for your free copy of our informative Technical Bulletin.
"Pearl Essence Finishes"
—what they are and how to use them.
Argenta Products Co.
EASTPORT, MAINE

Drum Plug Wrench; steel or bronze, fits 95% of plugs or bungs in steel drums. Morse Mfg. Co., Inc., 763 W. Manlius St., East Syracuse, N. Y.
For more data, circle 63 on colored card.

Quality Control Power Cleaning and finishing machines to fit into the industrial automation picture, when or where this is desirable—and where you are just approaching it too. The Alvey-Ferguson Co., 757 Disney St., Cincinnati 9, Ohio.
For more data, circle 64 on colored card.

Better Metal Cleaning. Rejects down to .001% because of more perfect cleaning. 38 regular basic designs and innumerable specially engineered machines. Dept. IF-10, Industrial Systems Co., Matawan, N. J.
For more data, circle 65 on colored card.

Agateen Lacquer. Excellent adhesion, mileage and durability, plus other desirable merits. Agate Lacquer Mfg. Co., Inc., 11-13 43rd Road, Long Island City, New York.
For more data, circle 66 on colored card.

Cold Degreasing Solvent. Chlorothene has high solvent power, low corrosive effects on metals, and no flash or fire point. Dow Chemical Co., Dept. S672B, Midland, Michigan.
For more data, circle 67 on colored card.

Color-Flecked Textured Enamel. Poly-Hue offers 2 to 4 colors each; bonds firmly to metal, wood or plastic; resists chipping; cleans easily. American Lacquer Solvents Co., Phoenixville, Penna.
For more data, circle 68 on colored card.

Strips Epon Resin Coatings. Enthone's Enamel Stripper S-18 is especially developed for quickly removing new organic finishes including synthetic enamels. Enthone, Inc., 442 Elm St., New Haven 11, Connecticut.
For more data, circle 69 on colored card.

Complete Finishing Setups, including surface conditioning, (cleaning, phosphatizing, dry-off) paint application (by power dipping, flow coating, spray, etc.) and drying or baking, including movement and filtering of air, conveyorization, and engineering service are offered by The R. C. Mahon Co., 6565 8-Mile Road, Detroit 34, Mich.
For more data, circle 70 on colored card.

Spray Painting Masks and machines for automatically masking and spraying masked parts and products (also mask washing machines) are included in fast precision finishing equipment developed by Conforming Matrix Corp., 331 Toledo Factories Bldg., Toledo 2, Ohio.
For more data, circle 71 on colored card.

Conveyorized Furniture Finishing. A free illustrated book on this subject is offered by DeBurgh Conveyors, 1941 K St. N.W., Washington, D. C., and 10 S. 11th Ave., Evansville, Ind. The company refers to its conveyor system as one "designed by a furniture man for furniture men," and claims not only space saving but improved quality of finishes.
For more data, circle 72 on colored card.

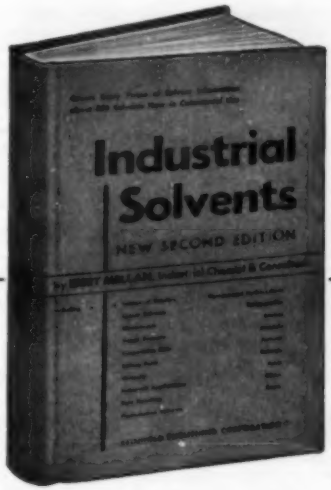
Iridite Treatment for Metals protects their surfaces from corrosion, gives attractive and durable dye colored finishes to some metals, and cannot chip or peel. Goes on at room temperature by dipping or spraying. Allied Research Products, Inc., 4004 E. Monument St., Baltimore 5, Maryland.
For more data, circle 73 on colored card.

Roller Coating Finishes—the kind that are used to coat thin strips of aluminum, steel or other metal that comes in coils, is unwound, roller coated, the coating baked, and then the metal is cut, stamped or formed into various articles — from bottle caps to house siding. Reliance Varnish Co., 4730 Crittenden Drive, Louisville 9, Kentucky.
For more data, circle 74 on colored card.

Custom Finishes for Metal, developed to solve various stubborn metal finishing problems, are offered by Cincinnati Varnish Co., Cincinnati 12, Ohio.
For more data, circle 75 on colored card.

Baking and Drying, as applied to a variety of conveyorized operations in connection with finishing (before, during and after) is a specialty with Young Bros. Co., 1835 Columbus Rd., Cleveland 13, Ohio. Bulletin 4 tells about it.
For more data, circle 76 on colored card.

Roller Coating Machine for coating all kinds of flat work offers economies, speed and uniformity of film thickness. An interesting and informative story about this method of applying all kinds of coatings is offered free by Gasway Corp., 6459 N. Ravenswood Ave., Chicago 26, Ill.
For more data, circle 77 on colored card.



This last edition is an excellent text and reference book of 758 pages, containing a tremendous amount of authentic and complete information on industrial solvents and their uses—for example, in cleaning and finishing materials and wherever solvents are used in industry. The revised contents are organized and classified in easy-to-read, easy-to-find form for practical busy men.

Its practical contents are divided into 16 chapters, some of which include such headings and sub-headings as solvents, non-solvents, evaporation rate, boiling point, flash point, toxicity, viscosity, safe handling, hydro-carbon solvents, alcohols, ketones, acids, ethers, esters, etc. It contains many new charts, illustrations and conveniently tabulated material, all developed to help the reader grasp the factual information quickly. The alphabetical subject index covers 11½ pages.

This book will prove valuable to key men in the industrial field, who have responsibilities in connection with the cleaning, surface conditioning or preparation of products for painting, plating or polishing, and those concerned with the selection, purchase, storage, handling, testing or use of finishing materials and thinners for same.

Price $12.00—Money Back Guarantee.

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Automatic Spraying with horizontal transvers machine; takes a variety of sizes and shapes; small lots or long runs. Other "automatics" available too. The DeVilbiss Co., Toledo, Ohio.
For more data, circle 78 on colored card.

Flow Coat Finishes, suited to volume production of quality coatings on products of metal or wood, are offered by The Clinton Co., 1210 Elston Ave., Chicago 22, Illinois.
For more data, circle 79 on colored card.

Knife Heaters for Patchers. Heats as many as four knives at a time; small, safe, all electric; dependable. The Op-Al Electric and Mfg. Co., 809 N. Senate Ave., Indianapolis 7, Ind.
For more data, circle 80 on colored card.

Easy Power Sander; new dual action pad moves two directions at same time; for roughing or finishing; abrasive paper doesn't "fill". Electric drive or by compressed air. Illustrated literature offered free. Detroit Surfacing Machine Co., 1268 E. 8-Mile Road, Detroit 20, Mich.
For more data, circle 81 on colored card.

Blond Finishes for furniture in blond, stained and colors, wood or metal, are among the specialties of Rockford Varnish Co., Rockford, Ill. Information on the protective and decorative finishes will be sent on request.
For more data, circle 82 on colored card.

TOMORROW'S Products Tested TODAY

A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.

SOUTH FLORIDA TEST SERVICE
EST. 1931
4201 N. W. 7th St. Miami 34, Fla.

Be Sure of a Perfect Finish!
"DUSTIX"
TACK RAGS
Glassine Bagged or Bulk Packed. Long lasting—spontaneous combustion-proof. Prompt quotations and shipments. Write
Modern 1st Aid Mfg. Co.
Industrial Division
737 W. Randolph St., Chicago 6, Ill.

Paint Circulating Systems. Bulletin 701 tells about the advantages and economies of a paint circulating system, using Binks material pumps in connection with 55-gallon drums. Binks Mfg. Co., 3116-40 Carroll Ave., Chicago 12, Ill.
For more data, circle 83 on colored card.

Polychrome Metallic Finishes. Many of these, including hammer-effect coatings, are pigmented with Alcoa aluminum. Get the facts from your paint manufacturer or write to Aluminum Co. of America, 1732-K Alcoa Bldg., Pittsburgh 19, Penna.
For more data, circle 84 on colored card.

Technical Service and Lab. Testing are included in the development and production of finishes of uniform quality. Lowe Brothers, 434 E. Third St., Dayton 2, Ohio.
For more data, circle 85 on colored card.

Shortcut in Finishing. A new free booklet tells you about strippers, cleaners, rust removers, phosphate treatment, etc., in preparation for painting any metal. Oakite Products, Inc., 32F Rector St., New York 6, N. Y.
For more data, circle 86 on colored card.

Hot Spray Heaters; how, why, when and where they are effective in cutting production costs—and at the same time producing a better finish. The Spee-Flo Co., 720 Polk, Houston 2, Texas.
For more data, circle 87 on colored card.

Striping Tools make accurate striping (straight and curved) easy and fast. Two and three size stripes possible with one tool. Beugler Mfg. Co., 4312 W. Second St., Los Angeles 4, Calif.
For more data, circle 88 on colored card.

Polychromatic Finishes, smooth, uniform, irridescent tone and hammered effect coatings made from Reynolds aluminum pigments, are both attractive and durable for a variety of products of metal, plastic and other materials. The Reynolds Metals Co., P. O. Box 1800, Louisville 1, Kentucky
For more data, circle 89 on colored card.

Damp-Resistant Bake Enamel. A 2-coat Guardsman bake finish includes Chemgard primer and Glogard enamel; this finish offers excellent adhesion, flexibility, hardness, gloss, humidity resistance and color retention. Grand Rapids Varnish Corp., Grand Rapids, Mich.
For more data, circle 90 on colored card.

Are You Now Satisfied With the Following?

IF YOU ARE NOT satisfied with the following, your company finishing operations may embody quick opportunities for increased earnings through economy, increase in sales, together with improvement in quality of finish.

1) That your product finish has maximum eye and sales appeal.

2) That your organic finishing operations are being produced at the lowest minimum cost, with unequalled quality.

3) That your production rate of speed in the finishing department is operating at a maximum.

4) That the percentage of rejects is being held at a minimum.

5) That you are purchasing quality materials formulated to obtain maximum mileage at the lowest cost per square foot.

6) That you are using the correct type of materials to insure durability.

7) That you are using the best method of application with the proper application technique to prevent waste.

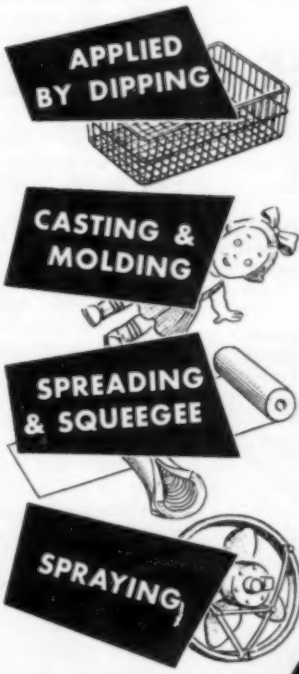
8) That you are finishing your product at the lowest minimum cost for materials and labor.

9) That the finish stands up in the field without customer complaint or loss of repeat business.

10) That the correct dry film thickness is being applied — neither too little nor too much; too little effects quality, too much increases cost.—

C. Raymond Syer, Finish Consultant

PYROXCOTE*



PLASTISOLS and ORGANOSOLS

Our Plastisols and Oganosols are the ENGINEERED vinyl dispersions. They are the best answer to many a difficult finishing problem.

Pyroxcote Plastisols are applied by dipping, casting, spraying, and spreading — are fused by subsequent heating to yield plastic coatings which may be thick or thin — colored or colorless — dense or porous — "engineered" to your particular needs.

It will pay you well to drop us a line for helpful advice on your special needs.

PAOLI, PENNA.
WICHITA, KANSAS

Pyroxylin PRODUCTS, INC., CHICAGO 32

*T.M. Reg. U.S. Pat. Off

More Spray Painting

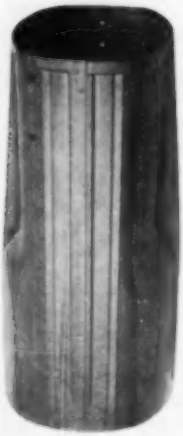
SOME PRODUCTS require a spray job of painting or finishing because of the quality of finish demanded, or because they are not well adapted to any other method of coating. This may be due to their shape or size or some other factor, or to a combination of these. While manual spraying may be an expensive method of coating it is versatile and offers a quick, easy solution to many of the problems and situations in product finishing.

From a material cost basis, the application of finishing material by compressed air spraying may be more expensive than flow coating, dipping, dip whirl, tumbling or roller coating, unless the product is suited to electrostatic application of paint. If the product can be coated electrostatically, material costs will be reduced as compared to hand spraying.

And let's remember the present improved airless hot spray units which offer many desirable features including less overspray of material.

On a production basis, hand spraying is bound to be slower than some of the mass production methods of applying organic coatings, such as power dipping, flow coating, tumbling, etc. However, this difference can be removed to a great extent, if not entirely, through the use of well designed automatic spray machines. In many factories automatic spray machines are part of an entirely mechanized finishing system. Where the volume

REDUCE FINISHING COSTS
Speed Production With . . .



15½" long x 7" dia. A vacuum cleaner tank with attractive hammertone exterior and grey interior finish.

CAPITOL'S AUTOMATIC ELECTRIC SPRAY-BAKE CONVEYOR MACHINE

600 Vacuum Cleaner tanks Per Hour, exterior and interior surfaces completely finished in two operations, require two operators, one to load and one to unload.

One of the leading vacuum cleaner manufacturers is using several of Capitol's Automatic Electric Spray-Bake Conveyor Machines to completely finish many different parts. Experience reveals lower costs and a better, more uniform finish.

It will pay you well to investigate . . . Get detailed information.

Send your parts to us for quantity and finishing cost estimate

Get the facts . . . Make comparisons with present operation. Ship any one or more of your parts to us for an estimate of finishing costs and hourly production, and cost of machine to handle your work.

CAPITOL MACHINE COMPANY
36 BALMFORTH AVE. DANBURY, CONN.
Phone: Pioneer 3-2758

of production is large enough to warrant it, practically any product of reasonably small size, regardless of its shape, can be finished on an automatic spray machine.

Preceding the spray station, but served by the same conveyor, there may be a metal cleaning, surface conditioning and dry-off unit; and following the spraying operation there may be an oven in which the applied coating is baked.—*X-10-U-8.*

Peters-Dalton Co. Becomes Part of Detroit Harvester Co.

Purchase of the Peters-Dalton Co., of Detroit, one of the largest producers of spray booths, washers and ovens for the automotive and other metals industries, by the Detroit Harvester Co. was announced on Oct. 1, 1955, by J. Thomas Smith, Harvester president.

Retaining its name and personnel intact, the firm, located at Ryan and Nevada, in Detroit, and doing a $10,000,000 annual business, become a wholly-owned Detroit Harvester subsidiary with consumation of the purchase Saturday.

The acquisition of Peters-Dalton, for an undisclosed sum, in cash and Detroit Harvester common stock, in payment to the firm's shareholders for their stock, was part of the long-range expansion and diversification program of Detroit Harvester, one of the country's largest producers of automotive parts and equipment, power lawn mowers and farm mowers.

"With the rapid growth of automation in industry," Smith declared, "we felt the Peters-Dalton eminence in this field made it a solid forward step in our expansion program."

Praising the "fine job" being done by a "great organization and splendid personnel," Smith said the Peters-Dalton Co., subsidiary of Detroit Harvester Co., would continue its operation intact.

Its products are used mainly for industrial installations involving the cleaning, washing, painting and drying of metal products.

Patching, Touch-up Course

Classes in expert patching and touch-up finishing are conducted about six or eight times a year by The Star Chemical Co. (everything in the modern wood finishing line) at its new plant, 9830 Derby Lane, Westchester, Illinois. The company also has a branch at 2619 S. Ervay St., Dallas 15, Texas.

Classes are limited to 18 students. Total time for the course is three days. Hours are from 9 A.M. to 12 noon and from 1 P.M. to 4 P.M. Registration fee is $35.00 per person.

A minimum of lecture time and a maximum of actual practice and instruction on problems is arranged for this class.

Corner of Star Chemical's class room showing instructor J. J. Vaughn (Sales Mgr.) at right.

Random Comment on the Industrial Scene

(Continued from page 6)

Building; Construction. During the next ten years the American economy will pour some $600 billion into building materials and construction labor and services.

In the same period, probably 12,000,000 to 13,000,000 new housing units will be built.

These predictions were made at the annual Fall meeting of the Producers' Council, Inc., recently at the Hotel Statler in Detroit, Michigan.

* * *

Colors Penetrate, Become Part of Film. A new and continuous method of dying all gauges of "Mylar" polyester film with colors that penetrate and become part of the film itself has been developed in Martinsville, Va., by Julius Hermes, president of the newly formed Martin Processing Co.

This new method dyes "Mylar" in colors and shades ranging from delicate pastels to jet black. Using DuPont dyes especially developed for the process, colors include amber, navy blue, black, bronze, blue, neutral gray, etc.

* * *

Quick Color Identification. An easy method for identifying metal bars, sheets of steel, coils of wire, pipe, etc., in warehouses and plants, is being marketed by Zaco Laboratories, a division of Zip Abrasive Co., 1360 W. 9th St., Cleveland 13, Ohio. Zip-Spray Speed Lacquer is put up in convenient aerosol spray cans and is available in 12 colors. It can be applied over oily bars with minimum bleeding through. Two spray master pattern cards are included in each carton for masking purposes. Convenient slits are provided for easy masking of the metal.

Blushing of Lacquer

CAUSE: "Blushing" is the formation of a white mist in a lacquer film. It usually occurs when the temperature and humidity are high.

It is caused by using a poorly balanced or fast-drying thinner. The lacquer film cools by the rapid evaporation of its thinner, and moisture condenses from the atmosphere on to the surface.

Prevention: Blushing may be avoided by using a high grade lacquer thinner or by adding a retarder (a slow-evaporating solvent) to the lacquer mixture being sprayed. However, during exteremely hot weather and high humidity, even this might fail. In such cases, if you have no air-conditioned finishing room, stop spraying lacquer until weather conditions are more normal.

Cure: After blushing occurs and the finish has dried, add a good grade of lacquer thinner (or a mixture of thinner and retarder) to the lacquer and apply another double coat.

—*Dupont Refinisher News.*

An NGR stain will probably do a better job. It might be well to learn more about all wood stains.

Barrett, Director of Research For International Rustproof

The International Rustproof Corp. announces the appointment of Mr. L. D. Barrett as Director of Research. Mr. Barrett was formerly Chief Chemist of Weatherhead Co. His Master's Degree was obtained through studies at Case Institute of Technology and John Carroll Univ.

American-Marietta Buys Firm That Makes Can Linings

American-Marietta Co. has purchased Stoner-Mudge, Inc. of Pittsburgh, Pa., one of the country's largest manufacturers of coatings for lining cans.

The acquisition, involving an exchange of shares valued in excess of $7 million, provides important diversification for American-Marietta and further broadens its position in the field of chemical coatings.

Stoner-Mudge has five plants in the United States and Canada, as well as rapidly progressing operations in Mexico, France and Holland.

Repair Finishing Book Reveals New Professional Methods

Here, a man who is experienced and skillful in quickly restoring to perfect condition, all kinds of damaged places on fine furniture, cabinets, pianos and appliances, tells you exactly how to do it, what to use and how to finish up the job professionally.

Cigarette burns, light scratches, deep scratches, discolorations, crushed corners, cracks, dents, holes, chipped out veneer, broken pieces—any damage you can name on period furniture, blond finishes, grained surfaces, white appliances—the author has covered it in detail and with illustrations. He knows his subject thoroughly; has had several years experience in this work and has developed improved methods, tools and work kits.

The book is conveniently divided into 14 chapters; page size about 5x7-in. The author is Mr. Delbert Bickel.

Copies of the new book can be obtained from Industrial Finishing Magazine, Price per copy, only $3.50.

Written and illustrated by a man who does the finest patching and repair finishing.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

POSITION WANTED.

Foreman Finisher, 22 years' experience as foreman, desires connection with reliable concern preferably doing high-grade work. Expert in mixing and matching colors and glazes. Have a thorough knowledge, both technical and practical, in all types and phases of wood finishing and the reproduction of antiques. Prefer the greater Philadelphia area. Address IF-362, care Industrial Finishing.

RESEARCH CHEMIST WANTED

For development work in industrial finishes. We prefer someone experienced in synthetic enamels and metal decorating. All replies confidential. ROCKFORD VARNISH CO., 1620 Harrison Ave., Rockford, Illinois.

VACUUM METALLIZER WANTED.

State size, make, serial No. and price. We are also interested in auxiliary metallizing equipment. Address IF-367, care Industrial Finishing.

DISTRIBUTORS WANTED.

In some major industrial marketing areas, on industrial line of creams for cleaning and protection. Products of highest quality and nationally advertised and accepted. Address IF-368, care Industrial Finishing.

PAINT FORMULATOR.

Opening for experienced formulator of protective coatings in modern Research and Development Laboratory. Salary commensurate with ability. Reply with complete resume of personal history, education and experience. Replies held in strict confidence. THE GLIDDEN CO., Personnel Department, 11001 Madison Ave., Cleveland 2, Ohio.

CHEMIST WANTED

To take full charge of laboratory for medium-sized plant near Boston, Mass. Must have long experience in formulating lacquers, synthetics, etc. Excellent opportunity for right man. Reply giving complete particulars by mail. Address IF-363, care Industrial Finishing.

PAINT CHEMIST.

Experienced Industrial Finishes Formulator wanted with background in synthetic baking and specialty finishes. Excellent working conditions. Chemical degree desired but not necessary. Send resume to YARNALL PAINT COMPANY, Grays Ave. West of 54th St., Philadelphia 43, Penna.

SERVICEMAN WANTED.

Industrial paint manufacturer needs an experienced man to service metal accounts. This man should be well versed in metal preparation; spray, electrostatic, and roller coater application; and all types of curing ovens.

Must have knowledge of wrinkle, hammer and conventional metal industrial coatings. Will work generally in mid-western states.

In reply please give full details of past experience, age, etc. A personal interview at our expense is desirable. Address IF-366, care Industrial Finishing.

SALES—SERVICE MEN

To represent a leading manufacturer of industrial finishing materials in Virginia and North Carolina. We specialize in finishes for the furniture trade and have complete set-up in the heart of the southern furniture section, where we now have a large volume of business. We have an opening for a first-class man with proven ability in getting and holding this type of business; also top-flight finisher who is a good color man and desirous of becoming a service man to work with a salesman among the furniture trade. Please give full particulars in letter regarding experience, age, family status, earnings with present employer, etc. Your reply will be kept confidential. Our own people know about this ad. Address IF-356, care Industrial Finishing.

LOOKING FOR A BETTER OPPORTUNITY?

As one of the nation's larger manufacturers of industrial cleaning and processing compounds and equipment distributors, we have by far the most complete line of materials for major industry, including ultrasonic equipment and cleaning compounds.

Our technological advance in products and related processes has been so rapid we must expand our sales force, particularly in the Midwest and Eastern manufacturing areas. Industrial Paint Salesmen, Chemical Engineers or men experienced in chemical processing in metal fabrication plants, will qualify.

Compensation: Base salary, plus commissions based on sales; car allowance or car furnished, reimbursement of expenses; Profit Sharing Plan, a better than average opportunity.

If you qualify, please furnish a complete resume of employment history, age, etc. All replies confidential. Our employees are aware of this ad. Address IF-343, care Industrial Finishing, Indianapolis 4, Indiana.

LACQUERS TO YOUR FORMULA.

We have facilities to manufacture lacquers of all types, as per your formula or specification, at cost plus. We have a modern laboratory and experienced personnel to control each batch. Why not try us? Address IF-364, care Industrial Finishing.

SALESMAN—INDUSTRIAL FINISHES.

Well established and expanding manufacturer in the Newark area will consider an experienced man with proven record of achievement selling industrial finishes. Our proposition and an exceptional opportunity for security and high earnings allow us to insist on highest qualifications. Answer in detail. Replies confidential. Address IF-340, care Industrial Finishing.

SALESMAN—INDUSTRIAL FINISHES.

Sales representative wanted for a Philadelphia territory. Well equipped laboratory and plant facilities to back right man. Experience and proven sales record necessary. Active accounts will be turned over immediately. Excellent opportunity. Send resume to YARNALL PAINT CO., Grays Ave. West of 54th St., Philadelphia 43, Penna.

OUTSTANDING OPPORTUNITY.

Because so many sales leads (from our national advertising) are in territories not covered by us now, we are offering an unusually attractive opportunity to several successful, aggressive mfrs., reps. and salesmen now selling allied equipment lines. We are well-established manufacturer of complete line of infra-red electric baking and drying units, ovens with features unmatched by any other equipment. Unlimited earning possibilities on liberal commission plan. Write complete information: experience, lines handled, territory covered. DRIQUIK DIVN., Dry Clime Lamp Corp., Greensburg, Indiana.

DIRTY THINNERS AND SOLVENTS WANTED.

Send samples and letter giving approximate contents. GET CASH FOR SCRAP. THE JOHANN COMPANY, 13900 Grant St., Dolton, Illinois. Phone Dolton 4850.

SQUEEZED BY HIGH COSTS?

Large savings can be realized by reclaiming overspray from water wash spray booths. Fully equipped plant located in New Jersey and has know-how for this service with many years experience. ORELITE PRODUCTS CORP., Lodi, N. J.

FOR SALE: SURPLUS EQUIPMENT.

One 15-gal. Binks Pressure Tank; Two Air transformers, DeVilbiss. All in good working condition. Address IF-365, care Industrial Finishing.

CONVEYOR OVEN FOR SALE.

Gas-fired, 17-ft. x 40-ft. Includes blowers, burners, controls and 42 sections of conveyor. Blueprints available. CARADINE HAT COMPANY, 4th and Market St., St. Louis 2, Mo.

PAINT STRAINERS

For straining lacquers, enamels, paints. Made of heavy paper with cloth inserts in different meshes, 6-in. diameter conical shape. Write for catalog and samples. GERSON CO., Box 175, Mattapan 26, Mass.

FORD CUPS

THE VOL-U-METER COMPANY

Buffalo 16, N. Y.

— SPECIAL OFFERING —

Binks Automatic Spraying and Drying Units, Complete with Conveyor and Water Wash Booth.

F. B. Stevens Pickling Machine, Automatic Return Type, Model B, with Lead Lined Tanks and Conveyor.

Write or phone for particulars

GENERAL TRADERS, INC., 2629 GRAND AVENUE, CHICAGO 12, ILL.

Ph: ARmitage 6-8050

PRODUCTION RECORDS PROVE...

BLACOSOLV®

DEGREASING SOLVENT

CAN'T BE BEAT!

In plant after plant, production departments report "greatly improved cleaning" ..."Rejects reduced from normal 15% to less than 1%"..."not one case of solvent breakdown"..."cleanout periods extended"..."Savings up to $550.00 weekly due to fewer cleanouts and less solvent consumption."

Write now to learn why you can save money and increase production with Blacosolv Degreasing Solvent and Blakeslee Degreasers.

G. S. BLAKESLEE & CO. 1844 S. Laramie Ave., Chicago 50, Ill.
NEW YORK • LOS ANGELES • TORONTO
also Manufacturers of Blakeslee Metal Washing and Surface Treatment Machines

INDEX to Advertisers

Advance Process Supply Co. 109
Agate Lacquer Mfg. Co., Inc. 101
Allied Finishing Specialties Co. 95
Allied Research Products, Inc. 29
Aluminum Co. of America 12
Alvey-Ferguson Co., The 37
American Lacquer Solvents Co. 73
American Richwood Products Co. 101
Argenta Products Co. 120

Baron Industries 31
Behlen & Bro., Inc., H. 111
Better Finishes & Coatings, Inc. 13
Beugler Mfg. Co. 72
Binks Mfg. Co. 56-57
Blakeslee & Co., G. S. 130
Body Bros. 91
Bond Chemical Products Co. 100
Brady Co., W. H. 104

Capitol Machine Co. 124
Cincinnati Varnish Co. 120
Classified Advertising 127
Clinton Co., The 51
Conforming Matrix Corp. 109
Cover, H. S. 112

Day & Co., James B. 87
DeBurgh Conveyors, Inc. 82
Detro Mfg. & Sales Co., Inc. 107
Detroit Surfacing Machine Co. 74
DeVilbiss Co., The 22-23
Dolan & Co., V. J. 5
Dow Chemical Co. 14-15
Dry Clime Lamp Corp. 99
Du Pont de Nemours & Co., E. I. 66-67

Eastman Chemical Products, Inc. 65
Enthone, Inc. 55

Gasway Corporation 53
General Traders, Inc. 129
Gerson Co. 129
Grand Rapids Varnish Corp. 2

Hamant Tool Co., Inc. 69
Hercules Powder Co. 49

Ideal Chemical Co. 117
Industrial Systems Co. 75
Interchemical Corporation ..... Second Cover

Kent Rotary Equipment Co. 77
Koch Sons, Inc., George 61

Lanly Co., The 112
Lawrence-McFadden Co. 106
Lilly Varnish Co. 10-11
Lowe Brothers 132

Mahon Co., R. C. 8-9
Mearl Corp. ..... Back Cover
Miracle Paint Rejuvenator Co. 119
Modern 1st Aid Mfg. Co. 122
Morse Mfg. Co., Inc. 119

Neilson Chemical Co. 45
Newcomb-Detroit Co. 38
Nikolas & Co., G. J. 16

Oakite Products, Inc. 39
Op-Al Elec. & Mfg. Co. 107

Paasche Airbrush Co. 20-21
Perfection Paint & Color Co. 71
Peters-Dalton, Inc. 33
Potter Paint Co. 6
Pyroxylin Products, Inc. 123

Raffi & Swanson, Inc. 93
Randolph Products Co. 47
Ransburg Electro-Coating Corp. 24-25
Reliance Varnish Co. ..... Front Cover
Reynolds Metals Co. ..... Third Cover
Rockford Varnish Co. 83
Ronci Machine Co. 97
Roto Finishing Systems 97

Shell Chemical Corp. 1
Snyder Bros. Co. 117
Solvents & Chemicals Group, Inc. 35
South Florida Test Service 122
Spee-Flo Co. 63
Sprayon Products, Inc. 79
Spruance Co., The Gilbert 7
Star Chemical Co., Inc. 104
Stewart-Warner Corp. 89

United Chromium, Inc. 43
United Lacquer Mfg. Corp. 81

Varnish Products Co. 105
Vol-U-Meter Co. 95-129

Watson-Standard Co. 19

Young Brothers Co. 41

24 HOUR SUNLIGHT

means better paint for industry

To guarantee exact duplication of color, a sample of each batch is checked against your required color standard under controlled light conditions. Sunrise and high noon light conditions can be produced by the lamp shown above, day or night. Further checks on color employ an electronic color difference meter.

Developing *the right paint for your product or plant* is only the first step in the complete Lowe Brothers Technical Service.

Highly skilled technicians also perfect production techniques and supervise their control to guarantee that every mix of your formula is exactly the same and meets your rigid specifications.

To control this production the very best testing equipment, such as the standard-light condition unit shown here, are utilized at every step during manufacture. As many as 89 separate production tests are standard for some paints.

This combination of technical "know how" and "production ability" assures you of the right paint for the best job every time. For this complete service call in your finishing specialist at LOWE BROTHERS, 434 East Third Street, Dayton 2, Ohio.

LOWE BROTHERS

INDUSTRIAL FINISHES

Quality unsurpassed since 1870

For Product Buy-Appeal

Specify POLYCHROMATIC FINISHES

made with
REYNOLDS ALUMINUM PIGMENTS

Even the most utilitarian products can now have eye-catching beauty to distinguish them. Polychromatic wrinkle finishes produce durable surfaces with extra depth and appeal. Aluminum flakes remain evenly dispersed as the coating sets up.

Reynolds patented* non-leafing aluminum pigments are justly famous for consistency in color which results in polychromatic finishes with added sales appeal and performance.

Reynolds technicians will work with you and your supplier to achieve perfect polychromatic finishes for your metal, plastic, composition, or wood product. Write Reynolds Metals Company, P.O. Box 1800-PS, Louisville 1, Kentucky.

*U.S. Patents 2,309,377 and 2,293,731; Canadian Patent 472,685

HAMMERED
The effect of ball peening . . . a multi-toned texture that conceals minor surface defects.

REGULAR
The most irridescent of the polychromatic finishes . . . translucent enamel or lacquer color base.

a 3 cent investment

that will pay off

Here's how you can profit by investing a three cent stamp to mail the coupon below: By return mail you'll receive demonstration samples showing the difference a small amount of Nacromer added to your regular coating material* will make in your finish. You'll see how Nacromer creates new and completely different effects that will do wonders for your products. You'll learn, too, that Nacromer can be used on metal, wood, plastic, glass, paper . . . practically any material, and, that it requires no change in your present finishing method — brush, spray or dip. Best of all, you'll see that such a small quantity of Nacromer is required that the cost is negligible. But, why not see for yourself? Simply check the material you finish and mail the coupon today. Your 3 cent investment will pay off.

YOUR REGULAR COATING MATERIAL + NACROMER = A UNIQUE FINISH

* *Nacromer is not suitable for use in pigmented enamels, high temperature bake-type synthetic resins containing formaldehyde, or paints. It is suitable for use over these coatings in a clear enamel or lacquer.*

the **Mearl** corporation

"World's Largest Producers of Pearl Essence"

153 Waverly Place • New York 14, N. Y.

Please send a demonstration sample of a Nacromer finish on

☐ wood ☐ metal ☐ plastic ☐ other

Name..... Title.....

Company.....

Address.....

City..... State.....